

DISSECTING THE DRAGON: CONFRONTATION, COERCION, AND
ASYMMETRIC LEVERAGE IN CHINA'S NEW PACIFIC

BY

LIEUTENANT COLONEL NICHOLAS GUTTMAN

A THESIS PRESENTED TO THE FACULTY OF
THE SCHOOL OF ADVANCED AIR AND SPACE STUDIES
FOR COMPLETION OF GRADUATION REQUIREMENTS

SCHOOL OF ADVANCED AIR AND SPACE STUDIES

AIR UNIVERSITY

MAXWELL AIR FORCE BASE, ALABAMA

JUNE 2010

APPROVAL

The undersigned certify that this thesis meets master's-level standards of research, argumentation, and expression.

STEPHEN D. CHIABOTTI (Date)

SUZANNE C. BUONO (Date)

DISCLAIMER

The conclusions and opinions expressed in this document are those of the author. They do not reflect the official position of the US Government, Department of Defense, the United States Air Force, or Air University.

ABOUT THE AUTHOR

Lieutenant Colonel Nick Guttman is a graduate of highest distinction from the United States Naval War College and is currently a student at the School of Advanced Air and Space Studies at Maxwell Air Force Base in Alabama. A senior pilot with over 1,700 hours in the F-15C, Lieutenant Colonel Guttman has completed tours of duty in Europe, the United States, the Middle East, and the Pacific; and is a veteran pilot with thirty combat missions in Iraq. Upon graduation from SAASS, Lieutenant Colonel Guttman will be assigned to lead 13th Air Force's Strategy and Plans Development Team at Hickam Air Force Base, Hawaii.

ACKNOWLEDGEMENTS

This work would not have been possible without the tireless efforts of those professionals assigned to the Naval War College's Halsey Group Alfa during academic year 2008-2009. Professors Jim Fitzsimonds and Craig Koerner were instrumental in guiding my understanding of the strategic and operational issues surrounding high-intensity warfare with a peer adversary. Cdr Scott Tait's and Lt Marcus Seeger's insights regarding naval surface warfare contributed greatly to my analysis of a blockade of the Malacca Strait and an invasion of Chinese territorial claims in the South China Sea. LtCdr Dan Reiss, LtCdr Charles McLenithan, and Lt Nicolas Bogaard provided expert insight into the limitations of submarine warfare. The never-ending discussions with LtCdrs Gabriel Helms, Jason Velivlis, Shane Tanner, and Robert Loughran regarding airpower's role in prosecuting maritime targets, and the work of Maj Eric Hresko regarding precision strike, proved essential in framing my discussion of conventional compellence. And to the rest of the Rat Bastards of Halsey Alfa, too numerous to mention here, my sincerest thanks.

I would also like to thank LtCdr Mike Smith for his research advice regarding globalization and China's modern diplomatic and economic challenges. My SAASS classmates, Maj Melvin Korsmo and Maj John Bartoli, donated freely of their time and insight during extensive discussions of Asian security issues. Finally, I would like to thank my wife for her unwavering support and tireless editing.

Though this work would not have been possible without the expert opinions and insights of many, any inaccuracies contained herein are entirely my own.

ABSTRACT

This study aims to develop and assess strategic options for confronting a hostile China, with the specific intent of recommending changes to US strategy to enhance the United States' ability to defend Taiwan. By evaluating the military modernization effort currently underway in China, the author distills an overall Chinese anti-access military strategy, which through asymmetric means grants the Chinese, for the first time, a reasonable expectation of air superiority over and around Taiwan. Furthermore, the author examines and discredits the doctrine of overwhelming force that has come to characterize America at war in the modern era. With this conventional wisdom invalidated, the author analyzes China's general and specific strategic goals, and describes a critical disparity between China's narrow goal of Taiwanese re-unification and China's grand strategic goals of continued economic prosperity and regional hegemony. Using this disparity as a critical leverage point, the author develops five strategic options: blockade of the Malacca Strait, conventional compellence, counter invasion, unconventional warfare, and nuclear brinkmanship. Ultimately, blockade, counter invasion, conventional compellence, and unconventional warfare on the Chinese mainland are shown to be effective at exerting pressure on China's grand strategy by threatening China's energy security, economic stability, diplomatic standing, and internal domestic stability. Conventional compellence and insurgency on Taiwan are proven effective strategies to more directly confront Chinese aggression against Taiwan. Nuclear brinkmanship is shown to be an invalid policy against China, as Chinese modernization efforts have granted that country a survivable and reliable retaliatory strike capability. This study concludes by addressing the four Chinese courses of action against Taiwan that DOD deems plausible, and recommends specific strategic options or combination of options to confront those courses of action.

CONTENTS

Chapter	Page
DISCLAIMER	iii
ABOUT THE AUTHOR	iv
ACKNOWLEDGMENTS	v
ABSTRACT	vi
 <i>Section I</i>	
INTRODUCTION	1
1 AMERICA AT WAR AND THE STRATEGY OF THE IRON DRAGON...	7
 <i>Section II: Strategic Options</i>	
STRATEGIC CONTEXT.....	25
2 MONEY TALKS – BLOCKADE OF THE MALACCA STRAIT.....	30
3 CONVENTIONAL COMPELLENCE.....	36
4 A NEW LEFT HOOK – COUNTER INVASION.....	56
5 UNCONVENTIONAL WARFARE.....	63
6 ON THE BRINK – NUCLEAR POSTURING AGAINST	73
THE IRON DRAGON	
 <i>Section III</i>	
CONCLUSIONS AND RECOMMENDATIONS.....	80
APPENDIX: LIST OF ACRONYMS.....	89
BIBLIOGRAPHY	91

Illustrations

Figure

1	The Chinese ASBM Anti-Access Umbrella.....	11
2	Bathymetry of the Taiwan Strait and Surrounding Waters.....	13
3	PLA Strategic SAM and SRBM Operational Reach.....	16
4	Overall PLA Anti-Access Measures.....	16
5	Conflicting EEZ Claims in the South China Sea.....	27
6	Snapshot of the Strait of Malacca, 23 Mar 10, 1824Z.....	31
7	Alternate Shipping Routes.....	33
8	Confluence of Focused and Broad Strategic Critical Capabilities.....	39
9	Confluence of Narrow and Grand Strategic Military Enablers and The Ideal Target Set.....	49
10	The Paracel, Spratly, and Senkaku Island Groups.....	57
11	Chinese Airbase at Woody Island.....	60
12	Xinjiang Uighur Autonomous Region.....	68
13	Kazakhstan-China Oil Pipeline and Strategic Petroleum Reserve.....	70
14	Proposed Pakistan-China Pipeline.....	71
15	Ranges of Various PRC Ballistic Missiles.....	76
16	Relative US Commitment Across All Strategic Options.....	83

Introduction

Background and Thesis

Advancements in military capability by the People's Republic of China (PRC) over the past decade have granted that country strategic options previously beyond its grasp, and have upset the delicate strategic balance between China, the United States, and Taiwan. In the years since the Third Taiwan Strait Crisis of 1995-1996, tensions between the PRC and the Republic of China (ROC, or simply Taiwan) have waxed and waned based on the varying agendas of those countries' leaders. However, armed conflict has always been deterred by the balance of credible military capability between the countries, not to mention the tacit support of the United States for Taiwan, which cast as highly improbable the success of any major PRC military action against the island.¹ Since the 1995-1996 crisis, the People's Liberation Army (PLA) has undertaken a massive modernization effort, and the PRC has devoted an alarming and increasing share of its gross domestic product (GDP) to this effort. In contrast, for various internal political reasons, Taiwan has failed to modernize its force, and Taiwan's overall budgetary allocation to its military has diminished.² Compounding that, the United States' ability to counter Chinese military modernization has been undermined by its focus on the wars in Iraq and Afghanistan. Furthermore, while tensions have indeed eased since the 2008 election of Taiwanese president Ma Ying-jeou, it is now evident that there are concrete political boundaries on both sides of the Taiwan Strait that make peaceful resolution between the countries doubtful.³ This political impasse, combined with the emerging feasibility of PLA success in a war against Taiwan and the United States, has eroded the deterrence inherent in the status quo that has pervaded the Taiwan Strait for decades.

¹ David A. Shlapak et al., *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute*, (Santa Monica, CA: RAND Corporation, 2009), 22-23.

² Michael S. Chase, "Taiwan's Arms Procurement Debate and the Demise of the Special Budget Proposal: Domestic Politics in Command," *Asian Survey* 48, no. 4 (July/August 2008): 703-705; and Shlapak et al., *Question of Balance*, 25-26.

³ Shlapak et al., *Question of Balance*, 28.

Of Dollars, Determination, and Politics

The current strategic imbalance is the product of unanswered PLA force modernization that has given the PRC the ability to overwhelm Taiwanese defenses while denying regional access to the US military. While the specifics of this modernization effort will be addressed later, it is useful to briefly examine the disparity in defense spending between the PRC and Taiwan that has enabled the imbalance. According to the US Department of Defense (DOD), the PLA's annual budget has increased nearly fivefold – to \$60 billion – from 1996 to 2008, indicating double-digit percentage increases annually across the period. Furthermore, official PRC budgets do not include funding figures for strategic forces, foreign purchases, research and development, and special operations forces; the actual 2008 expenditure may be in excess of \$150 billion.⁴

Conversely, Taiwan's military budget declined from 5.1% of GDP in 1990 to 2.2% of GDP in 2006, and has only recently increased to a mere 3% of GDP – less than \$11 billion.⁵ The reasons for this disparity can be found inside the Taiwanese domestic political machine. Fragmented constitutional power and partisan politics created incentives for Taiwan's elected leaders to support local, domestic spending at the expense of issues pertinent to the overall state, such as national security. Furthermore, lawmakers' desires to keep constituents happy – and funded – were augmented by the fact that most national defense dollars went to foreign countries, particularly the United States.⁶ Nowhere was this friction more evident than in the debate over the 2001 arms package offered to Taiwan by the Bush administration. To prevent then-president Chen Shui-bian from achieving a political victory by accepting the arms proposal, opposition leaders in Taiwan's legislature kept the issue of the arms purchase frozen in committee until it died in 2006.⁷

⁴ Department of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 31-32.

⁵ Shlapak et al., *Question of Balance*, 23; Department of Defense, *Military Power of the PRC 2009 Report*, 41; and Jane's Sentinel Country Reports, East Pacific Region, Economic Statistics, http://sentinel.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?&K2DocKey=/content1/janesdata/sent/cnasu/cnaa014.htm@current&Prod_Name=CNAS&Prod_Name=CNAS&QueryText=REGIONAL+STATISTICS#toclink-j1931227101621812.

⁶ Shlapak et al., *Question of Balance*, 24.

⁷ Chase, "Taiwan's Arms Procurement Debate...", 703-704.

While internal Taiwanese politics have prevented the ROC from meaningfully enhancing its national defense, external relations between the Ma government and the PRC may have increased the likelihood of a cross-strait conflict. Historically, Beijing's patience with Taiwan has been based on its assessment of long-term trends: as long as Taiwan was making meaningful, if slow, progress towards reconciliation, the PRC would not attempt to coerce the ROC or undermine its government.⁸ The 2008 election of Ma was seen by the PRC as such a favorable trend, since Ma was considerably more open to cooperation with the PRC than his predecessor Chen had been. This optimism, however, has proven premature. While Ma is certainly open to dialogue with the PRC, his political base rests with a population largely unwilling to accept unification with China under the PRC's terms. Conversely, the PRC is unwilling to continue the status quo of an independently-minded Taiwan. While recent détente may have eased tensions across the strait, it has also exposed the vastness of the political gulf between the two Chinas.⁹

Strategic Implications

The PLA's rapid modernization, combined with the political incompatibility of the PRC with even the most accommodating of Taiwan's presidents, creates a strategic challenge for the United States unparalleled since World War II. Years of friction between the PRC and ROC were routinely attributed by the PRC to unreasonable Taiwanese leaders who were unwilling to acquiesce to the PRC's demands. The PRC could always retain hope that in the long run a more unification-minded leader would rise to power in Taiwan and erase the tension. Furthermore, the inability of the PLA to project the pervasive cross-strait power required to force unification in the face of Taiwanese and US opposition rendered the issue militarily moot.¹⁰ Both of these conditions have changed drastically. In 2008, the Chinese Communist Party (CCP) got the Taiwanese leader it wanted, but political reality has exposed limits of how far even the most accommodating Taiwanese leader can go, and it is well short of what the PRC will accept. Moreover, the PLA is now capable of not only dominating Taiwan militarily, but also of preventing US forces from aiding the island. American military strategy, which assumes overwhelming force and multi-domain superiority, is

⁸ Shlapak et al., *Question of Balance*, 6.

⁹ Shlapak et al., *Question of Balance*, 28.

¹⁰ Department of Defense, *Military Power of the PRC 2009 Report*, 41.

incompatible with the challenges the joint force would face in a conflict with China, and would likely lead to US defeat. In order to adapt to the new strategic environment featuring this near-peer adversary, the United States must abandon the symmetric warfare that has driven its doctrine in the modern era, and consider new strategic options, such as economic blockade, conventional compellence, counter invasion, unconventional warfare, and nuclear brinkmanship. This work will examine each of these options in turn, and make recommendations for US strategy against the Iron Dragon.

Methodology

This work is divided into three sections. The first section will cover the strategic environment and specific threats that confront the US joint force. The second section will examine five strategic options for dealing with a hostile China. The final section will juxtapose these options against feasible PRC courses of action (COAs), and make recommendations for US strategy.

Section I

Chapter 1: America at War and the Strategy of the Iron Dragon

This chapter will begin with a brief analysis of the dominant American military thought that has emerged in the modern era, complete with its assumptions of overwhelming force and multi-domain superiority. To evaluate this doctrine against the potential battle environment of a conflict with China, the PRC's anti-access strategy will be examined in detail. This strategy will be divided into threats and challenges to 1) maritime surface operations, 2) subsurface operations, 3) air operations, and 4) space, cyber, and command and control (C2) operations. Conclusions about China's strategy will be derived from this analysis. Finally, the conventional wisdom embodied in US joint force doctrine will be re-examined, and discredited, in the face of the strategic challenges presented by the Chinese.

Section II

Chapter 2: Money Talks – Blockade of the Malacca Strait

According to DOD, China imports over half of its oil, and as much as 80% of this imported oil passes through the Malacca Strait. China is dependent on these imports not only to feed its war machine but also to sustain its growing economy. In Chapter 2, the

operational feasibility and strategic utility of an economic blockade¹¹ of the Malacca Strait will be examined, and the overall effectiveness of such a blockade will be evaluated.

Chapter 3: Conventional Compellence

Chapter 3 will analyze conventional compellence. This chapter will begin with a review of Chinese strategic aims divorced from Taiwan. Then, by focusing on the aspects of China's strategy common to both a Taiwan invasion and the PRC's expanding hegemonic goals, critical capabilities and vulnerabilities will be derived, from which a list of targets suitable for conventional attack will be developed. These targets will highlight the vulnerability of the PRC not only against Taiwan, but also regarding its ability to achieve broader strategic goals in the South China Sea and beyond.

Chapter 4: A New Left Hook – Counter-Invasion

Chapter 4 will outline a US-led counter-invasion of Chinese territory, and the effects that such an invasion may have. While an assault on mainland China likely exceeds US capability, the United States may be able to shift strategic emphasis by attacking Chinese claims in the East China Sea or South China Sea. This chapter will determine the optimum invasion site, examine the potential effectiveness of such an assault on the Chinese strategy, and conclude by analyzing the possibility of combining such an assault with the blockade option proposed in Chapter 2.

Chapter 5: Unconventional Warfare

Chapter 5 will analyze another asymmetric defense against Chinese aggression: unconventional warfare. This chapter will outline the capabilities, limitations, and expectations of US support to subversive groups. Then, the potential of various insurgencies led by Tibetans separatists, Taiwanese nationalists, or ethnic Uighurs will be examined using the benchmarks of insurgency motivation, operational feasibility, and strategic utility. Chapter 5 will conclude by matching subversive efforts deemed viable with strategic options previously discussed.

¹¹ The term "economic blockade" is used in this work to describe a selective blockade focused on Chinese oil imports.

Chapter 6: On the Brink – Nuclear Posturing Against the Iron Dragon

Finally, chapter 6 will examine the utility of a policy of nuclear brinkmanship. The United States enjoys a significant advantage over the PRC with respect to nuclear capability, but the threat of nuclear strike may fail to deter Chinese aggression. This chapter will outline three fundamental perspectives of nuclear coercion: balance of interests, balance of power, and the contest of credibility. Chapter 6 will then apply these analytical methods to the nuclear balance between the United States and China, and will conclude by addressing the limitations of US nuclear capability, the risks associated with brinkmanship, and the difficulties in coercing a nuclear state that credibly employs a strategy of assured destruction.

Section III

Chapter 7: Conclusions and Recommendations

Chapter 7 will review the strategic options presented in the thesis, and will recommend specific courses of action for various contingencies. Using the Chinese COAs considered plausible by DOD, this final chapter will match strategic options and combinations of strategic options to both the Chinese COAs and to various levels of concurrent US global military commitment.

Chapter 1

America at War and the Strategy of the Iron Dragon

The method of force employment that has characterized America at war in the modern era is likely incompatible with, and perhaps counterproductive to, high-intensity conflict against a near-peer adversary. However, US military strategists and policy-makers continue to apply this model of overwhelming force, complete with its assumptions of multi-domain superiority, to military problems across the spectrum of conflict. Such an approach could prove disastrous in a conflict with China. This chapter will briefly examine the US military doctrine that has emerged since the end of the Cold War. Then, the PRC's military capabilities will be examined in detail, from which an overall Chinese strategy will be derived. Furthermore, the Chinese COAs considered by DOD to be feasible will be introduced and briefly examined. This chapter will conclude by juxtaposing the assumptions of the US military strategy against the realities of the PRC's capabilities and strategy.

US Military Strategy in the Modern Era

The current US military doctrine of overwhelming force is a product of the contemporary military experience. With the end of the Cold War, the US military lost the major peer adversary it was designed to confront, but retained much of the combat power inherent in the Cold War strategy. This combat power has been applied with devastating effect in the major combat operations – Just Cause, Desert Storm, Allied Force, Enduring Freedom, and Iraqi Freedom – undertaken since the demise of the Soviet Union. These conflicts have done much to shape the thinking of US military strategists. The doctrine, complete with its assumptions, that has emerged as a result of these wars has come to characterize America at war in the 21st Century. It is characterized by:

- Pervasive global awareness and real-time intelligence¹
- Protected, massive deployments to access-assured locations contiguous to the battlespace, and...

¹ Office of the Chairman, Joint Chiefs of Staff, *Joint Vision 2020 America's Military: Preparing for Tomorrow* (Washington, DC: Government Printing Office, June 2000), 32.

- Battlespace dominance via overwhelming numbers, superior weapons accuracy, platform interconnectivity, and information superiority.²

Furthermore, these major characteristics of the American war doctrine are enabled by several critical assumptions of multi-domain dominance, such as:

- Air superiority/supremacy/dominance
- Sea control, via surface and subsurface superiority
- Space assurance
- Cyber superiority and communications assurance, which guarantee a robust C2 capability,³ and finally...
- Relative impunity from attack at protected garrisons and locations denied to the enemy.⁴

While America's war strategy has proven operationally valid against adversaries such as those faced in Iraq and the former Yugoslavia, it may not be valid against an adversary capable of direct and catastrophic kinetic and non-kinetic measures against all aspects of the joint force – one that can hold at risk not only assets at the tactical level but also capital ships at sea, forward operating bases, space-based assets, cyberspace networks, and the US homeland *simultaneously*. Arguably, the United States has not faced an adversary of this caliber since World War II. It is exactly this type of adversary to which we now turn our attention.

The Capabilities of the New PLA and China's Anti-Access Strategy

If China confronts an enemy with high technology and superior equipment in a local war, it is impossible that the enemy would also have comprehensive superiority in politics, diplomacy, geography, and support.

- Jiang Lei, Beijing National Defense University, 1997⁵

² CJCS Joint Vision 2020, 15.

³ CJCS Joint Vision 2020, 3, 6, 10.

⁴ CJCS Joint Vision 2020, 27.

⁵ Jiang Lei, *Xiandai Yi Lei Sheng You Zhanlue [Modern Strategy for Using the Inferior to Defeat the Superior]*, 113-114, reflected by Roger Cliff et al., *Entering the Dragon's Lair: Chinese Anti-access Strategies and Their Implications for the United States*, (Arlington, VA, RAND Corporation, 2007), 27, RAND authors' translation.

Following the overwhelming defeat by the United States of Iraqi forces in Operation Desert Storm, PRC president Jiang Zemin directed the PLA to modernize and attain sufficient capability to win “local wars under high-technology conditions.”⁶ Chinese strategists have been keen to observe that the best way to defeat the United States is to prevent it from bringing its superior military force to bear. The best way to accomplish this is through anti-access measures that deter US involvement or delay the arrival of US air and naval forces, thus allowing the aggressor state to achieve short-term regional objectives.⁷ China’s massive force-modernization efforts mentioned in the introduction support this strategy, and manifest themselves in the form of threats and challenges to maritime surface operations, maritime subsurface operations, air operations, and space/C2/cyber operations.

Threats and Challenges to Maritime Surface Operations

Of all of the advances in Chinese military capability, none is a greater threat to America’s military strategy than the advanced conventional ballistic missile. While ballistic missiles are usually regarded as land-attack weapons, the Chinese have observed that naval aviation is a critical aspect of US global military power.⁸ As a result, they have undertaken the daunting task of adapting conventional ballistic missiles to the task of defeating US aircraft carriers at sea. This effort has resulted in the indigenously produced Dong Feng 21 (DF-21) series of anti-ship ballistic missiles (ASBM). Based on the CSS-5 medium-range ballistic missile (MRBM), these missiles have a range of over 1,000 nautical miles (NM),⁹ employ advanced countermeasures such as maneuvering re-entry vehicles (MaRVs), and exceed the capability of current ballistic missile defense (BMD) systems designed to defend large-radar-cross-section ships of carrier and expeditionary strike groups (CSG/ESG).¹⁰ Not only are these weapons difficult to defeat,

⁶ Cliff et al., *Entering the Dragon’s Lair*..., 21, RAND authors’ translation.

⁷ Ronald O’Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities -- Background and Issues for Congress*, Congressional Research Service Report for Congress (Washington, DC: 19 November 2008), 7.

⁸ Cliff et al., *Entering the Dragon’s Lair*..., xvii.

⁹ Peter Brookes, “Why China Worries the Pentagon,” *The Early Bird*, 16 October 2009, <http://ebird.osd.mil/ebfiles/e20091006708016.html>, 1.

¹⁰ Brookes, “Why China Worries the Pentagon,” 1; Cliff et al., *Entering the Dragon’s Lair*..., 93; Ronald O’Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities -- Background and Issues for Congress*, Congressional Research Service Report for Congress (Washington, DC: 23 December 2009),

their effect on a large-deck aircraft carrier would be devastating, virtually guaranteeing denial of a carrier's capability to project airpower.¹¹ These weapons could essentially force US aircraft carriers to remain outside of ASBM range, far exceeding the capability of an unrefueled F-18E/F to conduct combat operations in the vicinity of Taiwan.¹²

While the DF-21 ASBM is a significant threat to US carrier operations, it is not a stand-alone weapon. Broad-area maritime surveillance (BAMS) is required to locate potential maritime targets, and focused information, surveillance, and reconnaissance (ISR) assets are required to determine which targets are in fact aircraft carriers and to fix their positions accurately. The PLA has accomplished both tasks with the deployment of over-the-horizon backscatter radar (OTH-B) augmented by maritime reconnaissance satellites.¹³ The OTH-B would be used to develop a comprehensive maritime operating picture, while the satellites could provide identification and accurate targeting information to PLA 2nd Artillery (the PLA's ballistic missile force).

The Chinese threat to US surface operations extends beyond the targeting of aircraft carriers. Though destroyers, cruisers, and frigates have smaller radar cross-sections than aircraft carriers, and are thus less likely to be targeted by ASBMs, they would run the gauntlet of Chinese layered sea-denial defenses, consisting of advanced anti-ship cruise missiles (ASCMs) launched not only from major surface combatant vessels but also from small, fast, and stealthy Houbei guided-missile patrol boats operating in the littorals and open ocean.¹⁴ With regard to cruise missile attack, the Chinese navy is well aware of the US Navy's Aegis air defense system, and plans to overwhelm air defense vessels with large waves of Harpy anti-radiation weapons designed to home on the Aegis system's SPY-1 radar. This attack could then be

4; "Chinese Develop Special 'Kill Weapon' to Destroy U.S. Aircraft Carriers", (U.S. Naval Institute, 31 March 2009); and Brookes, "Why China Worries the Pentagon," 1.

¹¹ Xin-qi Li, Guo-hua Niu, Ming-hai Wang, and Ming-jun Luo, "Pixel-simulation Study on Damage Efficiency of Carrier Plane Groups under Attacking of Submunition", *Journal of System Simulation*, 20, no. 11 (June 2008): 3062; and U.S. Naval Institute, "Chinese Develop Special 'Kill Weapon'..."

¹² The combat radius of the F-18E/F is 390NM and 410NM in the maritime interdiction and counterair roles, respectively, according to the Federation of American Scientists, "F/A-18 Hornet," <http://www.fas.org/programs/ssp/man/uswpns/air/fighter/f18.html#performance>.

¹³ RAND (Cliff et al.), *Entering the Dragon's Lair...*, 90; O'Rourke, *China Naval Modernization (2009)* ..., 5 and 16; Department of Defense, *Military Power of the PRC 2009 Report*, 21, 26.

¹⁴ O'Rourke, *China Naval Modernization (2008)*..., 8-10, 23; O'Rourke, *China Naval Modernization (2009)*..., 5, 11-12, 14; Department of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 48-49; Professor William Murray, "China-Taiwan Case Study" (lecture, Naval War College, Newport, RI, 6 April 2009).

augmented with swarms of advanced ASCMs such as the SS-N-27 Sizzler, SS-N-22 Sunburn, and the indigenously produced YJ-83.¹⁵ Additionally, the Chinese navy operates a large fleet of advanced submarines, which not only can conduct mining operations and ASCM attacks, but also are equipped with the latest wake-homing torpedoes that are difficult to counter.¹⁶ The net effect of these anti-access measures is the US surface fleet would be forced beyond its operational reach. Aircraft carriers would be pushed eastward by the ASBM threat far beyond their ability to project airpower. Furthermore, smaller vessels such as destroyers could easily be made defensive by China's layered maritime defenses, and could operate closer than the carriers only at tremendous risk. A geographic representation of the impact of Chinese maritime anti-access measures is shown below in Figure 1.



Figure 1: The Chinese ASBM Anti-Access Umbrella
(Reprinted from: RAND (Cliff et al.), *“Entering the Dragon’s Lair...”*, 112.)

¹⁵ O’Rourke, *China Naval Modernization* (2008)..., 10, 23, and 51; and Foreign Broadcast Information Service “PRC: Joint Tactics for Destroying ‘Aegis’, ‘Arleigh Burke’ Described” (April 9, 2003), reflected in Cliff et al., *Entering the Dragon’s Lair...*, 76.

¹⁶ O’Rourke, *China Naval Modernization* (2009)..., 7.

While the US Navy's surface forces face significant challenges of direct attack, submarine forces must contend with challenges of a different nature.

Threats and Challenges to Maritime Subsurface Operations

The US Navy's submarine force enjoys an undeniable advantage over its Chinese counterpart in terms of vessel capability, service doctrine, and crew training and experience. However, these advantages may prove difficult to leverage in a conflict with China. One must remember that the objectives of the Chinese, with regard to military action against Taiwan, are purely littoral, and that the US Navy's submarine force was designed for open-ocean operations against a blue-water naval power, the Soviet Union. Operating large, nuclear-powered submarines in shallow waters brings its own set of challenges, regardless of the threat. While the specific limitations of US submarine sensors and weapons in shallow waters exceed the classification level of this discussion, the overarching effects of littoral operations are simple enough to deduce. For example, at periscope depth, a US hunter-killer submarine (SSN) draws 63 feet of water to the bottom of the keel.¹⁷ In 20 fathoms (120 feet) of water this submarine has only 57 feet of water between the keel and the ocean floor. This leaves the submarine with almost no maneuvering room to dive to evade threats, not to mention its vulnerability to visual detection by aircraft operating in its vicinity. In addition, operations in shallow waters leave submarines vulnerable to mining, a capability the Chinese have been keen to perfect.¹⁸ Initially, the challenges posed to submarines by the littoral environment may not seem like a significant concern, given the vast stretches of deep water in the Pacific. However, as Figure 2 shows, submarine operations within the Taiwan Strait will be anything but unrestricted.

¹⁷ Lt. Nicolas Bogaard, United States Navy submariner, interview by the author, 1 April 2009.

¹⁸ Murray, "China-Taiwan Case Study," 6 April 2009.

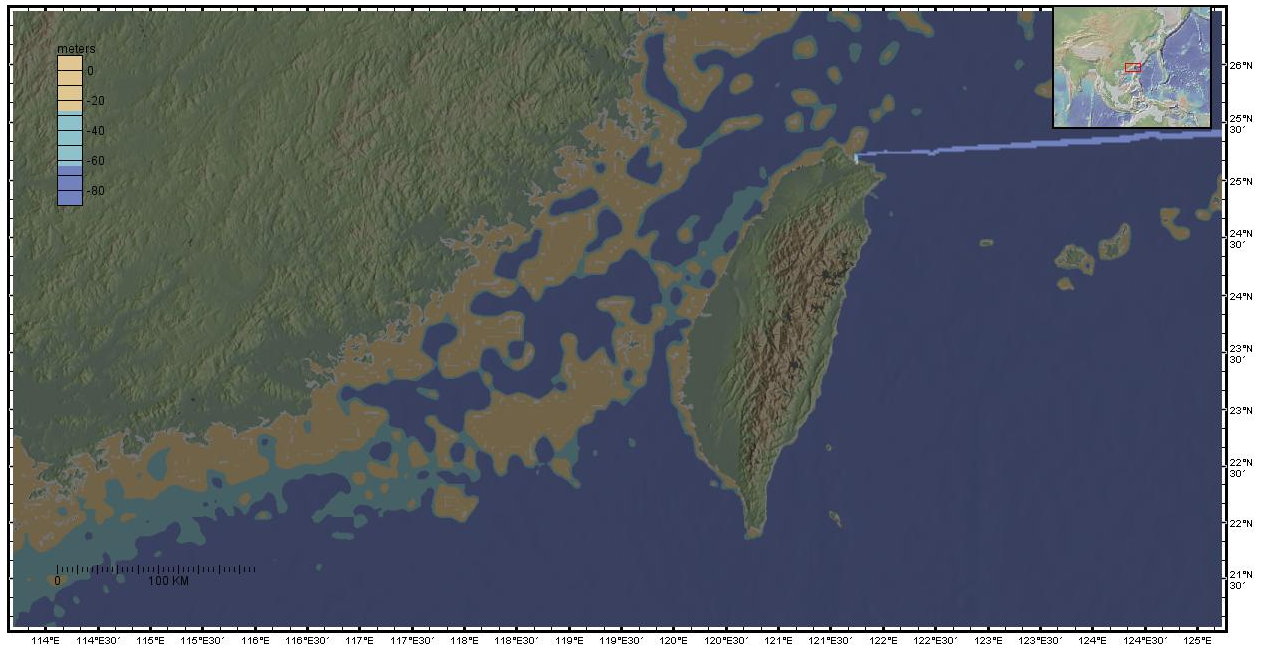


Figure 2: Bathymetry of the Taiwan Strait and Surrounding Waters
 (Author's own work. Created with Virtual Ocean: developed by William F. Haxby, Andrew K. Melkonian, Justin Coplan, and William B.F. Ryan, and funded by the National Science Foundation and Trustees of Columbia University)

In Figure 2, all the areas shown in orange are 20 fathoms or less, and cover roughly half of the area of the Taiwan Strait. Thus, one can clearly see that US submarine operations in the Taiwan Straits would be severely limited, and the ability of US SSNs to conduct maritime interdiction of Chinese surface forces or amphibious assault forces would be diminished. This limitation is not lost on the Chinese, who cite superiority in geography as one leverage point to use against an adversary of superior technology.¹⁹

It should be noted, however, that while US submarines may not be able to directly interdict enemy surface forces in much of the Taiwan Strait, their ability to initiate land attack via cruise missile strike will be mostly unhampered, as there are ample deep water bastions away from the Taiwan Strait for SSNs and guided missile nuclear attack submarines (SSGNs) to use to avoid detection and conduct strikes. Even so, the maritime component is left with little force to bring to bear against the adversary, and what force is available takes the form of an airborne weapon, which, like other forms of airpower, will face its own challenges.

¹⁹ Cliff et al., *Entering the Dragon's Lair...*, 27. Full quote cited previously in this chapter.

Threats and Challenges to Air Operations

The Chinese anti-access umbrella represented in Figure 1 affects not only maritime forces but also land-based airpower. The Chinese have “the most active land-based ballistic and cruise missile program in the world,”²⁰ and the same technology used in the DF-21 ASBM, which enables its survivability against BMD efforts, has proliferated to land-attack conventional ballistic missiles such as the CSS-6 and CSS-7. These short-range ballistic missiles (SRBM) can reach all ROC bases as well as US bases on Okinawa.²¹ Furthermore, improvements in ballistic missile accuracy and development of submunition-dispensing warheads have made Chinese conventional ballistic missiles ideal for attacks on large airbases with vast numbers of unprotected aircraft.²² Nor are the Chinese deterred by the prospect of attacking the territory of a US ally such as Japan, having stated that they would have “a totally legitimate reason to attack the enemy...on [a] third country’s territory.”²³ Combined with more traditional threats such as air-launched cruise missiles, the Chinese counterair anti-access efforts may succeed in rendering bases such as Kadena Air Base on Okinawa unusable, forcing land-based airpower to relocate to bases outside of the Chinese ballistic missile range. Here sea-based airpower has an advantage, as aircraft carriers can operate right to the edge of the ballistic missile threat’s range, whereas land-based airpower must relocate to the next available facility, which may be as far away as Guam.

The PLA’s asymmetric approach to countering superior allied airpower has significant strategic implications. Considering the numbers of SRBMs available (1050-1150), achievable salvo rates (210-250 mobile launchers), and BMD countermeasures inherent in many of the re-entry vehicles, it is possible that all ROC Air Force (ROCAF) bases, ROC strategic surface-to-air missiles (SAMs), as well as US bases on Okinawa could be rendered completely unusable in the first moments of the war.²⁴ In fact, a recent RAND study concludes just that, stating that the PLA could disable all runways

²⁰ Department of Defense, *Military Power of the PRC 2009 Report*, 48.

²¹ Cliff et al., *Entering the Dragon’s Lair...*, 62-64; O’Rourke, *China Naval Modernization (2008)...*, 50; Shlapak et al., *Question of Balance*, 33-34; and Department of Defense, *Military Power of the PRC 2009 Report*, 22.

²² Cliff et al., *Entering the Dragon’s Lair...*, 81-83; and Shlapak et al., *Question of Balance*, 48.

²³ Cliff et al., *Entering the Dragon’s Lair...*, 64, RAND authors’ translation.

²⁴ Department of Defense, *Military Power of the PRC 2009 Report*, VIII; and Shlapak et al., *Question of Balance*, 33-34.

and destroy all aircraft in the open on Taiwan with as few as 90 SRBMs.²⁵ US bases on Okinawa could suffer a similar fate, and aircraft not already airborne would be pinned down due to runway destruction and vulnerable to follow-on precision-guided munition (PGM) and cruise missile attacks.²⁶ Historically, the assumption of allied control of the air over Taiwan and into the strait has done much to deter PRC aggression. The strategic implication of the PLA's SRBMs is that, for the first time in the China-Taiwan saga, the PLA can have a realistic expectation of air superiority over Taiwan, as the air war may be decided before US or ROC aircraft could fire a shot.²⁷

Finally, those air forces that survive must contend with an advanced integrated air defense system (IADS) designed to prevent air operations over the Taiwan Strait, using land-based SAM systems such as the S-300PMU2 as well as sea-based missile systems like the SA-N-20 and HHQ-9 systems deployed aboard Chinese Navy Luzhou and Luyang II destroyers.²⁸ Furthermore, the Chinese air forces and naval air forces have deployed an alarming number of advanced 4th-generation fighter aircraft equipped with highly capable avionics and weaponry, posing a threat to both US fighter aircraft and more vulnerable ISR assets.²⁹ Figures 3 and 4 below illustrate the consolidated anti-access effects of PLA ballistic missiles, SAMs, and cruise missiles.

²⁵ Shlapak et al., *Question of Balance*, xv.

²⁶ Shlapak et al., *Question of Balance*, 61.

²⁷ Shlapak et al., *Question of Balance*, 89 and 118.

²⁸ Shlapak et al., *Question of Balance*, 85; O'Rourke, *China Naval Modernization (2008)*..., 23-24; and O'Rourke, *China Naval Modernization (2009)*..., 12-13.

²⁹ O'Rourke, *China Naval Modernization (2008)*..., 8.

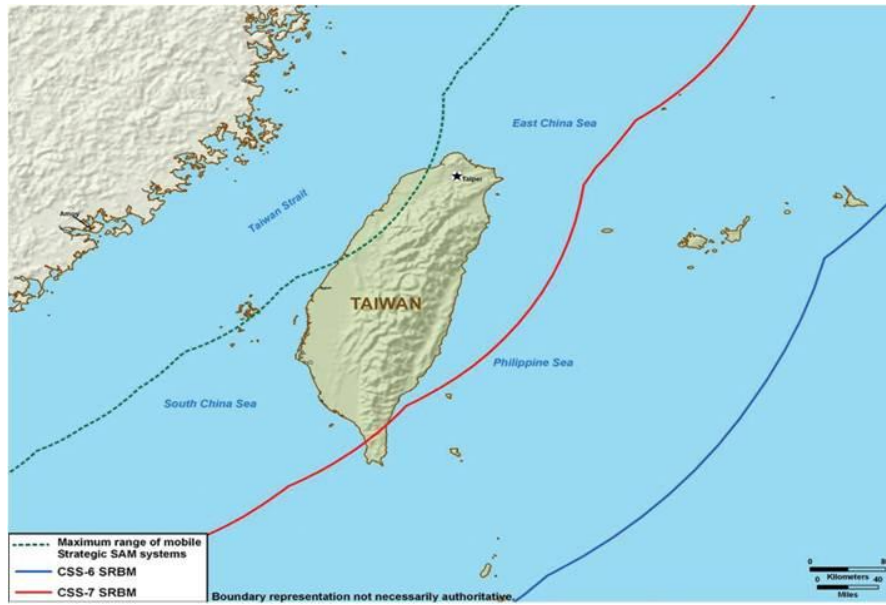


Figure 3: PLA Strategic SAM and SRBM Operational Reach
(Reprinted from Department of Defense, *Military Power of the PRC 2009 Report*, 42.)

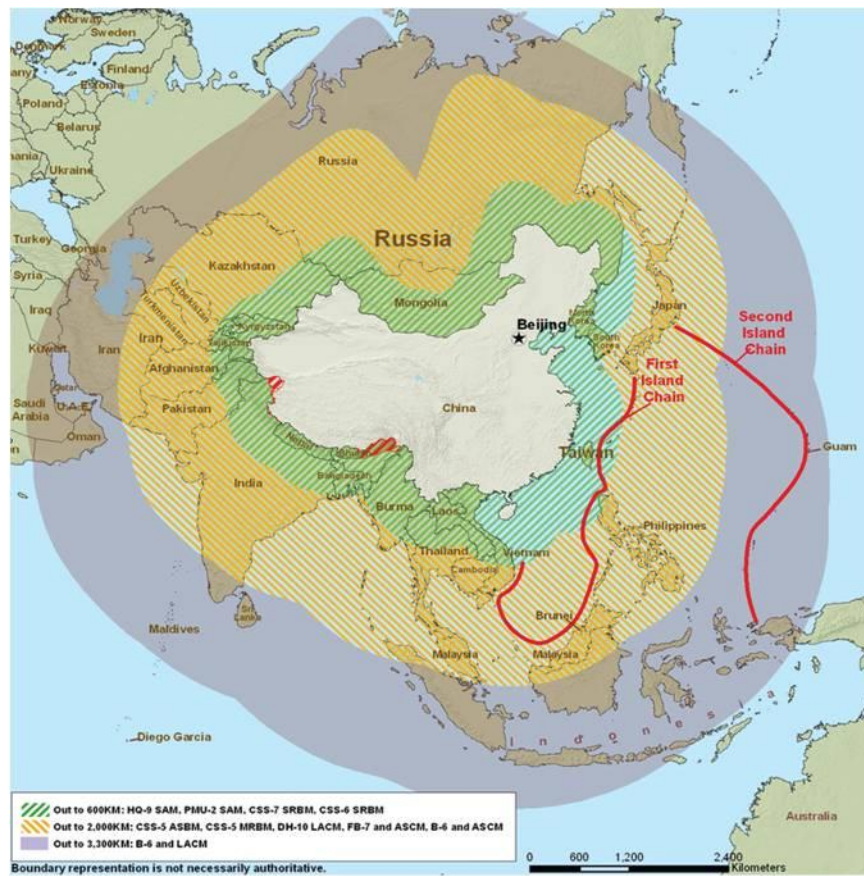


Figure 4: Overall PLA Anti-Access Measures
(Reprinted from Department of Defense, *Military Power of the PRC 2009 Report*, 23.)

The net effect of these measures is that US airpower, whether land- or sea-based, will be forced to operate from hundreds of miles away in a highly contested environment, supported by an antiquated aerial refueling fleet stretched thin,³⁰ thus limiting the overall number of aircraft that the United States can bring to bear. Air superiority will be hard-won and short-lived, and any air strikes that can be executed will occur over finite periods of time, as opposed to the around-the-clock air strikes that have characterized conflicts of the recent past.

Threats and Challenges to Space Operations, C2, and Cyber Operations

For countries that can never win a war with the United States by using the method of tanks and planes, attacking the US space system may be an irresistible and most tempting choice.

- PRC Defense Analyst Wang Hucheng, 2000

The information superiority and robust C2 that the US military has become so accustomed to in the 21st Century may be challenged and denied by a near-peer adversary. The Chinese view US dependence on space assurance, theater-wide communications, and robust C2 as a critical weakness; and, according to Chinese defense analysts, attacking such systems could effectively paralyze US forces.³¹ Furthermore, the importance of space as it relates to the more conventional warfighting domains is not lost on the Chinese, who state that “seizing space dominance is the root for winning the informationalized war,”³² and “space is the commanding point...battlefield monitor and control, information communications, navigation and position, and precision guidance all

³⁰ Jeremiah Gertler, *Air Force KC-X Tanker Aircraft Program: Background and Issues for Congress*, Congressional Research Service Report for Congress (Washington, DC: 22 December 2009), 2-3.

³¹ Cliff et al., *Entering the Dragon's Lair...*, 45; and Dean B. Cheng, “The Long March Upward: A Review of China's Space Program,” in *Harnessing the Heavens: National Defense Through Space*, eds. Paul G. Gillespie and Grant T. Weller (Chicago, IL: Imprint Publications, 2008), 159.

³² Li Daguang, translation in Cheng, “The Long March Upward...,” in *Harnessing the Heavens*, 159. It is worth noting that, according to some translations, president Jiang directed the PLA to win “local wars under conditions of informatization” (Department of Defense, *Military Power of the PRC 2009 Report*, I). If this is indeed the more correct translation, then the importance of space superiority to the PRC is even more pronounced.

rely on satellites...”³³ Thus, the PRC has developed the ability to challenge space power both kinetically and non-kinetically, disrupt or deny theater-wide communications, and attack computer networks in order to “blind and deafen the enemy.”³⁴

The most telling demonstration of the PRC’s ability to deny space power took place on 11 January 2007, when the Chinese destroyed a dormant weather satellite with a kinetic direct-ascent anti-satellite (ASAT) weapon.³⁵ While the successful test left a massive and pervasive cloud of orbiting debris, it announced to the world that the PRC had an operational capability to destroy adversary satellites in low-earth orbit (LEO).³⁶ Furthermore, the PLA has been keen to perfect non-kinetic means of space denial, such as land-based lasers that can blind space-based ISR sensors, as well as microwave and particle-beam weapons.³⁷

US space-based communications and navigation infrastructures, which orbit far above the vulnerable LEO region, are not immune to attack either. The PRC has fostered significant capability to deny these systems by jamming communications links across the theater and disrupting the flow of global positioning system (GPS) data with inexpensive, local jammers.³⁸

Finally, in an attempt to dominate the entire electromagnetic spectrum, the PRC could aggressively attack fragile computer networks essential to joint force operations.³⁹ Currently the PLA employs over six thousand computer hackers, who routinely attempt to infiltrate US government and military computer networks.⁴⁰ This effort has met with some success, as DOD-owned computer networks have been repeatedly attacked as recently as 2008.⁴¹ It is reasonable to assume that this effort would be more pronounced, and its effects on the joint force more disruptive, during conflict with China.

³³ Department of Defense, *Military Power of the PRC 2009 Report*, 13.

³⁴ Department of Defense, *Military Power of the PRC 2009 Report*, 14.

³⁵ Cheng, “The Long March Upward...,” in *Harnessing the Heavens*, 161.

³⁶ James Clay Moltz, *The Politics of Space Security: Strategic Restraint and the Pursuit of National Interests* (Stanford, CA: Stanford University Press, 2008), 40.

³⁷ Cheng, “The Long March Upward...,” in *Harnessing the Heavens*, 161; and Department of Defense, *Military Power of the PRC 2009 Report*, 28.

³⁸ John J. Klein, *Space Warfare: Strategy, Principles and Policy* (London, UK: Routledge, 2006), 59 and 95.

³⁹ Department of Defense, *Military Power of the PRC 2009 Report*, 14.

⁴⁰ Arthur Herman, “America’s Looming China Challenge,” *New York Post*, 26 January 2010, <http://ebird.osd.mil/ebfiles/e20100126730252.html>, 1.

⁴¹ Department of Defense, *Military Power of the PRC 2009 Report*, 52.

The overall effect of the PRC's efforts to deny space power, disrupt communications, and execute computer network attack is that the US joint force could find itself fighting deaf, mute, and blind; denied the critical command and control so essential to its basic functionality and habitually assumed as incontestable.

The Anti-Access Strategy of the PRC

The rapid force modernization of the PLA, combined with the writings of PRC defense analysts and the statements of PRC policy-makers, betrays an overall PRC strategy. This strategy employs various operational capabilities depending on whether it is applied against an intervening superpower such as the United States; against a renegade province targeted for invasion, such as Taiwan; or toward PRC strategic goals that are broader than the settlement of the Taiwan issue.

With respect to the United States or other intervening power, it is clear that the Chinese strategy is one of access-denial. The PLA is transforming into “a force that can deter US intervention...or failing that, delay the arrival or reduce the effectiveness of intervening US naval and air forces.”⁴² The overall goal of the PRC's anti-access measures has not been to defeat US forces in symmetric combat (air forces versus air forces, sea forces versus sea forces, etc.), but rather to deny the US force the most critical aspect of its doctrine – freedom of action – while simultaneously threatening its bases, capital ships, and supporting networks.⁴³

While the PLA's modernization lends confidence to the PRC's ability to deter a major power, it grants the PRC a marked improvement in strategic options with respect to Taiwan. Historically, the prospects of PLA success in any major military action against Taiwan were slim, due in no small part to the fact that the PLA could have no realistic expectation of air superiority over and around Taiwan. Furthermore, the PLA's amphibious sealift capability has always been modest at best – the PLA Navy (PLA(N)) can sealift only one infantry division at any one time.⁴⁴ While the PLA's sealift capability has not improved significantly, the rapid growth of the PLA's SRBM capability has fundamentally changed the strategic calculus. According to RAND, the

⁴² O'Rourke, *China Naval Modernization (2009)*..., summary.

⁴³ O'Rourke, *China Naval Modernization (2009)*..., 22.

⁴⁴ Department of Defense, *Military Power of the PRC 2009 Report*, 41 and VIII; and Shlapak et al., *Question of Balance*, 53.

PRC's inventory of SRBMs as recently as 2000 allowed for the destruction of only ROC strategic SAMs, leaving the PLA air forces to fight for air superiority against ROC and US air forces – a battle the PLA would likely lose.⁴⁵ But the sheer increase in numbers of SRBMs and launchers now allows the PLA to destroy not just Taiwan's strategic SAMs, but its entire IADS – SAMs, aircraft, airfields, sensors, and C2 facilities.⁴⁶ Combine this with the PLA's ability to attack US bases on Okinawa and prevent the involvement of US carrier aviation, and it becomes possible for the PLA, through asymmetric attack, to achieve the air superiority required to support either invasion or aggressive coercion of Taiwan. In fact, according to DOD, the PRC now has *four* feasible COAs available to address, through the use of military force, its issues with Taiwan. They include maritime quarantine/blockade, in which Taiwan's major ports would be closed by traditional or unconventional means; limited force coercion, in which special operations or computer network attack – combined with limited kinetic strikes – could be used to undermine the population's confidence in the government; air and missile campaign, in which Taiwan's air defenses could be neutralized preemptively, compelling the government to surrender in the face of inevitable defeat; and amphibious invasion, in which the PRC could invade either Taiwanese holdings or the main island of Taiwan itself, forcing unconditional surrender.⁴⁷

Finally, it should be noted that the anti-access strategy of the PRC extends beyond the considerations of Taiwan. In a broader strategic sense, the PRC aims to become a regional hegemon. The modernization efforts of the PLA are critical to this ambition, as the PRC's goals include securing sea lines of communication (SLOCs) to the Middle East and Africa, asserting territorial claims in the South China Sea, enforcing an ambitious interpretation of the PRC's rights within its exclusive economic zone (EEZ), and displacing US influence in the region.⁴⁸ The ability to conduct multi-domain surveillance in the oceans surrounding China, and to project military power across those oceans, are critical enablers to the PRC's strategic ambitions.

⁴⁵ Shlapak et al., *Question of Balance*, 63-64.

⁴⁶ Shlapak et al., *Question of Balance*, 64.

⁴⁷ Department of Defense, *Military Power of the PRC 2009 Report*, 43-44.

⁴⁸ O'Rourke, *China Naval Modernization (2009)*..., summary.

The American Strategy Revisited

Due to the modernized capabilities of the PLA and the expanding strategic goals of the PRC, traditional American strategy loses credibility. One must merely examine the characteristics of the American strategy – and the assumptions that enable them – in light of the anti-access strategy of the PRC to see that new options are needed. The following analysis outlines the critical aspects of the US military’s modern doctrine, as delineated at the beginning of this chapter, against the capabilities of the PRC.

Pervasive global awareness and real-time intelligence

US space-based ISR assets could suffer from an array of kinetic and non-kinetic attack. Sensors could be blinded or damaged, or satellites could be destroyed entirely. Atmospheric ISR platforms would be largely ineffective due to the dangers posed by the PLA’s land- and sea-based IADS. Surface ships operating as intelligence platforms would face tremendous risk from cruise missile and torpedo attack, and certain regions could be denied to them altogether due to the threat of mines. Submarines would be unable to monitor much of the Taiwan Strait due its littoral environment.

Protected, massive deployments to access-assured locations contiguous to the battlespace

The threat posed by the PLA’s conventional ballistic missiles may require a significant portion of US deployment capability to be focused on the evacuation of non-combatants on bases on Okinawa and the relocation of that island’s combat units to facilities outside of ballistic missile range. Furthermore, naval surface forces would be able to approach only as close as ASBM range, effectively keeping the maritime component outside of its operational reach. Submarine forces could operate within cruise missile range of China, but would operate completely autonomous of friendly forces and would thus face the full weight of the PLA’s anti-submarine capabilities alone.

Battlespace dominance via overwhelming numbers, superior weapons accuracy, platform interconnectivity, and information superiority

With respect to overwhelming numbers, it cannot be overstated that US forces must prosecute this war thousands of miles from home, while the PLA’s military objective is a mere 100 NM away. A good historical analogy is the British military’s experience during the Falkland Islands campaign in 1982. Due to the immense distances

the British force had to traverse, a sizable portion of its effort had to be dedicated to supporting and supplying the expedition. Though the British military dwarfed its Argentinean counterpart, the British were able to bring a mere fraction of their military power to bear. Even in the 21st Century, distance matters.⁴⁹ While the characteristics of war may have changed since 1982, the US joint force will feel the effects of distance, particularly with regard to the projection of airpower from Guam using a diminished fighter force and an antiquated tanker fleet.

While US forces could in fact be outnumbered in a battle with the PLA, the forces that can be mustered may be denied the precision weapons employment that has come to characterize America at war. Space-denial efforts of the PRC could adversely affect GPS navigation and weapons guidance to the point that the bulk of the joint force's weapons inventory could be rendered ineffective. Autonomous, satellite-aided weapons may have to be abandoned in favor of man-in-the-loop (MITL) weapons, increasing the risk to US operators and decreasing the tactical options for commanders.

Finally, it is dangerous to assume that the US joint force will enjoy the platform interconnectivity and information superiority to which it has become accustomed. The PRC seeks to dominate the electromagnetic spectrum, denying commanders theater-wide radio communication, paralyzing cyberspace networks, and crippling the data-link architectures upon which the modern joint force has become so reliant.⁵⁰ While the effects of these countermeasures on military commanders are simple enough to deduce, their effects on tactical operators may be of more concern. The success of US airpower in the permissive threat environments of Iraq and Afghanistan serves as a tacit endorsement of a cultural shift in US airpower employment to one of cyber-enabled centralized execution, dominated by the so-called "tactical generals."⁵¹ The air efforts in Iraq and Afghanistan are not confirmation of the success of centralized execution, but they are interpreted as such because they fail to disprove the new doctrine.⁵² Thus operators are becoming accustomed to centralized control bordering on

⁴⁹ Shlapak et al., *Question of Balance*, 102.

⁵⁰ Department of Defense, *Military Power of the PRC 2009 Report*, VIII.

⁵¹ P.W. Singer, *Wired For War: The Robotics Revolution and Conflict in the 21st Century* (New York, NY: The Penguin Press, 2009), 347-353.

⁵² Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York, NY: Random House, 2007), 58-60.

micromanagement. This type of employment may not be feasible against a near-peer adversary capable of controlling the electromagnetic spectrum. And the ability of the entire joint force to execute, during combat operations, a cultural reverse to decentralized execution is questionable at best, and may lead to disaster at the tactical level.

Multi-domain superiority and impunity from attack

The key enablers of modern American military doctrine – air superiority, sea control, space assurance, cyber and communications superiority, and impunity from attack – could fall victim to the Chinese strategy. Air superiority would suffer from both the anti-access and the area denial aspects of the PLA's strategy. The anti-access measures embodied in the Chinese SRBM and ASBM force would drive US airpower far from the battlespace. Furthermore, the area denial challenge posed by PLA land-based strategic SAMs would prohibit sustained air operations in the Taiwan Strait. This challenge could be extended over Taiwan by the PLA(N)'s maritime IADS led by the Luyang II and Luzhou destroyers, bringing advanced SAM capability right to the beaches.

Naturally, sea control could prove difficult to achieve in the face of the combined ASBM, ASCM, torpedo, and mine threats of the PLA. Subsurface assets would be denied access to much of the battlespace simply because of the littoral environment of the Taiwan Strait. Finally, for reasons discussed above, the joint force can have no realistic expectation of freedom of action in the cyber and electromagnetic domains; and barring evacuation to Guam in the Mariana Islands, US forces cannot operate under the assumption of impunity from crippling attack on its main operating bases.

Conclusions

The strategy that has come to characterize America at war in the 21st Century is based on critical characteristics and assumptions that are invalid in the context of high-intensity warfare with a near-peer adversary. While China may not be capable of destroying the US joint force in direct, symmetric confrontation, its anti-access and area denial measures could delay, disrupt, or deny the United States' ability to influence events in the region prior to the PRC accomplishing its limited wartime objectives.⁵³ Unless US strategists embrace alternatives to the doctrine that has dominated American

⁵³ Cliff et al., *Entering the Dragon's Lair*, xvii.

strategic discourse in the modern era, the United States may well lose in a war with China. It is five such alternatives – economic blockade, conventional compellence, counter-invasion, unconventional warfare, and nuclear brinkmanship – to which we now turn our attention.

Section II: Strategic Options

Strategic Context

In the chapters that follow, five strategic options to confront Chinese aggression will be examined. Many of these options seek to influence Chinese behavior by exploiting the disparity between the PRC's narrow goal of seizing Taiwan and its broader strategic goals in the South China Sea and beyond. Therefore, it is useful at this stage to briefly examine these grand strategic goals in the context of Chinese politics, economics, and diplomacy; and to establish links between these goals and their specific military enablers.

Political Context

Unlike their failed predecessors in the Soviet Union, officials in the CCP do not base their government's legitimacy on blind allegiance to a communist ideology. In an ironic turn towards capitalism, the CCP, which views survival as its top priority, seeks to assuage domestic unrest, unify the population, and further China's political standing internationally by maintaining China's aggressive economic development.¹ However, while the PRC's rapid economic transformation has increased China's international standing, it may be having the reverse effect internally. The benefits of rapid economic growth have not been distributed evenly among the population, creating "economic inequality and dislocation [and] official corruption..."² Certain Chinese analysts agree, cautioning the CCP that their greatest challenges lie in confronting fragile domestic issues.³ While CCP officials are fully aware that domestic unrest can quickly turn against the state, they seek to quell domestic grievances by stoking nationalist sentiment, which in turn relies on perpetuating the unprecedented economic development of modern China.⁴

¹ Department of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 2.

² Department of Defense, *Military Power of the PRC 2009 Report*, 2.

³ Beijing University Professor Ye Zicheng, addressed by Holmes and Yoshihara in *Chinese Naval Strategy in the 21st Century*, and reviewed by Crisp, "The Great Chinese Sea Power Debate: a review essay," 208.

⁴ Department of Defense, *Military Power of the PRC 2009 Report*, 2.

Economic Context

The PRC's economic rise has resulted in a substantial and rapidly increasing energy requirement. China currently imports over four million barrels of crude oil per day – 53% of its total oil requirement – and over 80% of these imports transit the Strait of Malacca.⁵ The Chinese economy is inextricably linked to energy markets in the Middle East and Africa, and CCP officials have become obsessed with maintaining access to these markets.⁶ Furthermore, suggestions that there are, or could soon be, overland pipeline options that free Beijing from its strategic dependence on sea lines of communication (SLOCs) are erroneous. According to energy analysts, the combined capacities of those pipelines that are truly independent of seaborne logistics will be dwarfed by the near-term increase in PRC oil demand.⁷ Continued economic vitality, upon which the CCP bases its legitimacy, is and will remain substantially dependent on the PRC's ability to control the seas.

Diplomatic Context

In addition to China's need to secure the SLOCs to the Middle East and Africa, the PRC faces significant diplomatic challenges regionally, particularly in the South China Sea. China claims an EEZ of unprecedented size, extending over one thousand miles from its shores.⁸ This claim overlaps with the EEZs claimed by at least five other countries in the region, as shown in Figure 5 below.

⁵ Department of Defense, *Military Power of the PRC 2009 Report*, 3-4.

⁶ James R. Holmes and Toshi Yoshihara, "Mahan's LingerinG Ghost," *Proceedings Magazine* 135 no. 12 (December 2009), http://www.usni.org/magazines/proceedings/story.asp?STORY_ID=2123, 2; and Department of Defense, *Military Power of the PRC 2009 Report*, 17.

⁷ Andrew S. Erickson and Gabriel B. Collins, "China's Oil Security Pipe Dream: The Reality, and Strategic Consequences, of Seaborne Imports," *Naval War College Review* 62, no. 2 (Spring 2010): 91-92. The authors are referring to the pipelines from Russia and Kazakhstan. Additional lines, from Pakistan and Burma, have been proposed. However, both of these lines would still require oil be delivered by sea to the pipelines' starting points. Furthermore, both lines would face daunting physical and political challenges due to demanding terrain and internal security obstacles.

⁸ Abraham M. Denmark and Dr. James Mulvenon, eds., *Contested Commons: The Future of American Power in a Multipolar World*, Report from the Center for a New American Security (Washington, DC: Center for a New American Security, January 2010), 20.

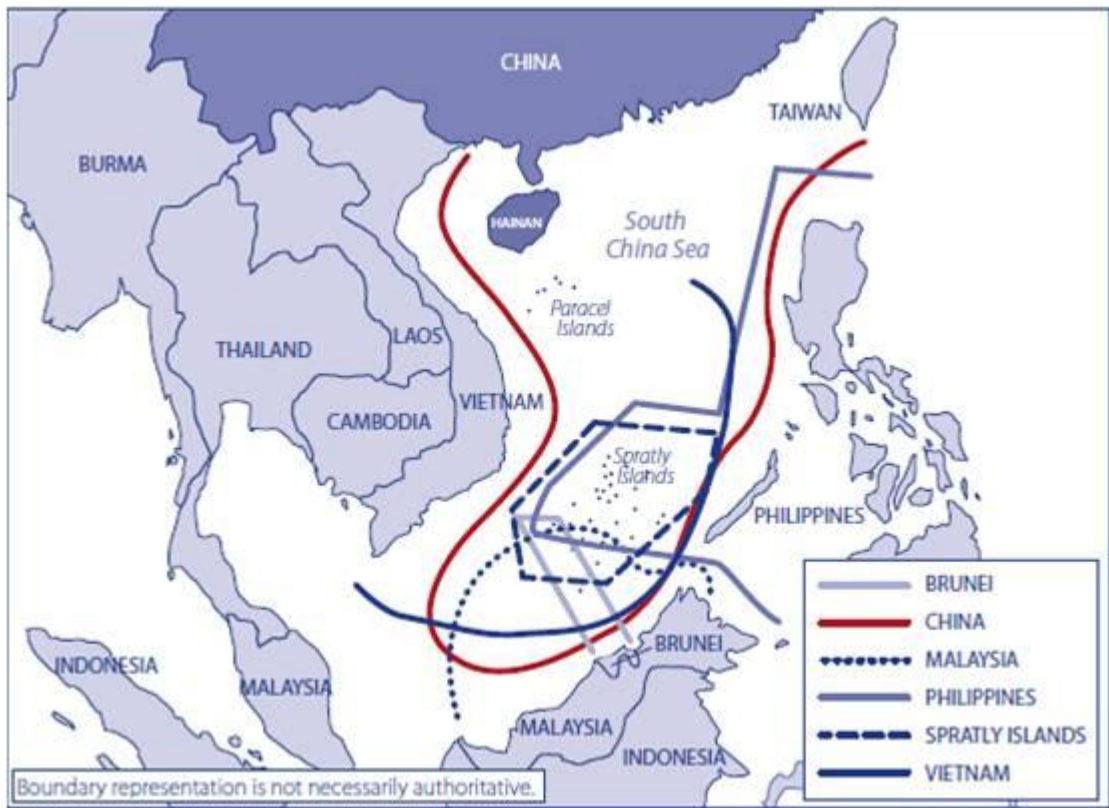


Figure 5: Conflicting EEZ Claims in the South China Sea
(Reprinted from Denmark et al., *Contested Commons...*, 21.)

China justifies its EEZ through claims to various islands within the region, including the Paracel Islands – also claimed by Vietnam – and the Spratly Islands – claimed by Vietnam, the Philippines, Brunei, and Malaysia.⁹ Additionally, China has taken an aggressive diplomatic stance with regard to its rights within its EEZ, stating that China has the right to deny transit of its EEZ to foreign vessels seeking “innocent passage.” This claim is in direct conflict with the United Nations Conventional Law of the Sea (UNCLOS).¹⁰ The diplomatic conflict over these claims, and the fact that foreign vessels continue to transit China’s EEZ, is perpetuated in no small part by a perceived inability or unwillingness of the PRC to back its claims through the credible threat of military force.

⁹ Peter J. Brown, “China All At Sea Over Japan Island Row”, *Asia Times Online*, 4 March 2010, <http://atimes.com/atimes/China/LC04Ad04.html>, 2.

¹⁰ Denmark et al., *Contested Commons...*, 20-21.

Military Enablers

The solutions to the various political, economic, and diplomatic challenges faced by the PRC share a common thread: the development of a blue water navy.¹¹ If it is accepted that the CCP's legitimacy depends on continued PRC economic growth, and that continued economic growth depends on the PRC's ability to secure SLOCs, then China will place high priority on the deployment of a navy capable of protecting PRC trade interests and access to global markets.¹² This reality is not lost on Chinese strategists, whose writings increasingly reflect the teachings of Admiral Alfred Thayer Mahan, stressing the linkage between economic prosperity and expeditionary naval power.¹³

While the rapid modernization of the PLA(N) may be alarming to those tasked with defending Taiwan, it cannot be overstated that this modernization serves interests that extend beyond the resolution of the Taiwan question.¹⁴ In addition to protecting PRC global trade interests and countering attempts at maritime containment,¹⁵ a blue water navy is required to address the various diplomatic challenges facing the PRC in the South China Sea. If the PRC cannot project military power into the South China Sea, other states in the region will have no reason to rescind their claims to EEZs and island groups that overlap with the claims of the PRC. Chinese strategists advocate asserting definitive control over the PRC's claims in the South China Sea through a strong blue water navy, suggesting "unlimited extension" within the EEZ, which China deems as

¹¹ A navy is considered "blue water" if it is capable of extended, autonomous, expeditionary power projection beyond a country's territorial waters. This definition varies slightly with that adopted by the PRC. According to Chinese doctrine, the PRC is developing a "green water navy", which it defines as an expeditionary naval force capable of autonomous operations from Vladivostok in the north to the Strait of Malacca in the south to the first island chain in the east. The Chinese anticipate the development of what they consider a "blue water navy" – one capable of worldwide power projection – by 2050. The differences for this discussion are largely semantic, but it is a distinction worth noting. From Jane's Sentinel Country Risk Assessments, Chinese Naval Doctrine, http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNA_S&K2DocKey=/content1/janesdata/sent/cnasu/chins130.htm@current#toclink-j1131124872728930.

¹² Holmes and Yoshihara in *Chinese Naval Strategy in the 21st Century*, as reviewed by Crisp, "The Great Chinese Sea Power Debate: a review essay," 211.

¹³ Admiral Mahan was an outspoken advocate of naval power as a means of perpetuating economic prosperity through global power projection. Holmes and Yoshihara in *Chinese Naval Strategy in the 21st Century*, as reviewed by Crisp, "The Great Chinese Sea Power Debate: a review essay," 204.

¹⁴ Holmes and Yoshihara, "Mahan's Lingering Ghost," 2; and Department of Defense, *Military Power of the PRC 2009 Report*, 28.

¹⁵ Holmes and Yoshihara, "Mahan's Lingering Ghost," 3.

sovereign territory.¹⁶ The CCP has demonstrated that it concurs with this assessment. As described in Chapter 1, the PLA(N)'s modernization effort is well underway, and the ability of China's navy to operate across the globe was demonstrated in January of 2009 when the PLA deployed a surface action group (SAG) to the waters off of the Horn of Africa to combat piracy in the region.¹⁷

The development and deployment of a blue water navy is the critical military enabler to China's composite solution to its various political, economic, and diplomatic challenges; many of which may exceed the Taiwan issue in strategic importance to the CCP. If it is unlikely that the United States will be able to defend Taiwan through direct, symmetric confrontation with the PLA over the Taiwan Strait, then US strategy must attempt to exploit the fissures between China's narrow strategic goal of seizing Taiwan and its broader goals of securing continued economic prosperity, resolving its territorial disputes by the threat of credible military force, and expanding its hegemonic influence in the Pacific.

¹⁶ Beijing University Professor Ye Zicheng and Ocean University of China Professor Zhang Wenmu, addressed by Holmes and Yoshihara in *Chinese Naval Strategy in the 21st Century*, and reviewed by Crisp, "The Great Chinese Sea Power Debate: a review essay," 210-211.

¹⁷ Jane's Sentinel Country Risk Assessments, Chinese Naval Deployments, http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNA_S&K2DocKey=/content1/janesdata/sent/cnasu/chins130.htm@current#toclink-j1131124871980297.

Chapter 2

Money Talks – Blockade of the Malacca Strait

The Straits of Malacca are akin to breathing – to life itself.

- Chinese Naval Strategist

The PRC's "Malacca Dilemma"¹ may prove useful as part of a broader asymmetric strategy against China. As noted previously, 80% of China's oil imports – more than 3.2 million barrels a day (bbl/day) – pass through the Strait of Malacca.² This energy lifeline is needed not only to sustain the economic vitality of the PRC, upon which the CCP bases its legitimacy, but also to feed the PLA's war machine. Severing this lifeline could place the broader strategic goals of the PRC in jeopardy, and cause the CCP to re-examine the value of forced reunification of Taiwan. Furthermore, forcing the PLA to react militarily to a blockade of the strait may disrupt its ability to mass naval power in support of operations against Taiwan. Executing an economic blockade of the Malacca Strait will, however, have operational hurdles of its own, and the strategic risks of such an action may render this option counterproductive in the long run.

Background

The Strait of Malacca is one of the most widely used and heavily congested maritime choke points in the world. Located between Malaysia and Indonesia, the Malacca Strait hosts, on average, 137 vessels per day. While China-bound tankers account for 3.2 million barrels of oil per day through the strait, the total oil throughput to all customers exceeds fifteen million barrels per day. Furthermore, the strait is a mere 1.5 NM wide at its narrowest point.³ A snapshot of the congestion of the Malacca Strait is shown in Figure 6 below.

¹ Michael Crisp, "The Great Chinese Sea Power Debate: a review essay," *Journal of Contemporary China*, 19, no. 63 (27 January 2010): 209, <http://dx.doi.org/10.1080/10670560903335918>.

² Department of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 3-4.

³ All figures in the paragraph come from US Energy Information Administration website, "World Oil Transit Chokepoints," January 2008, http://www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/Malacca.html.

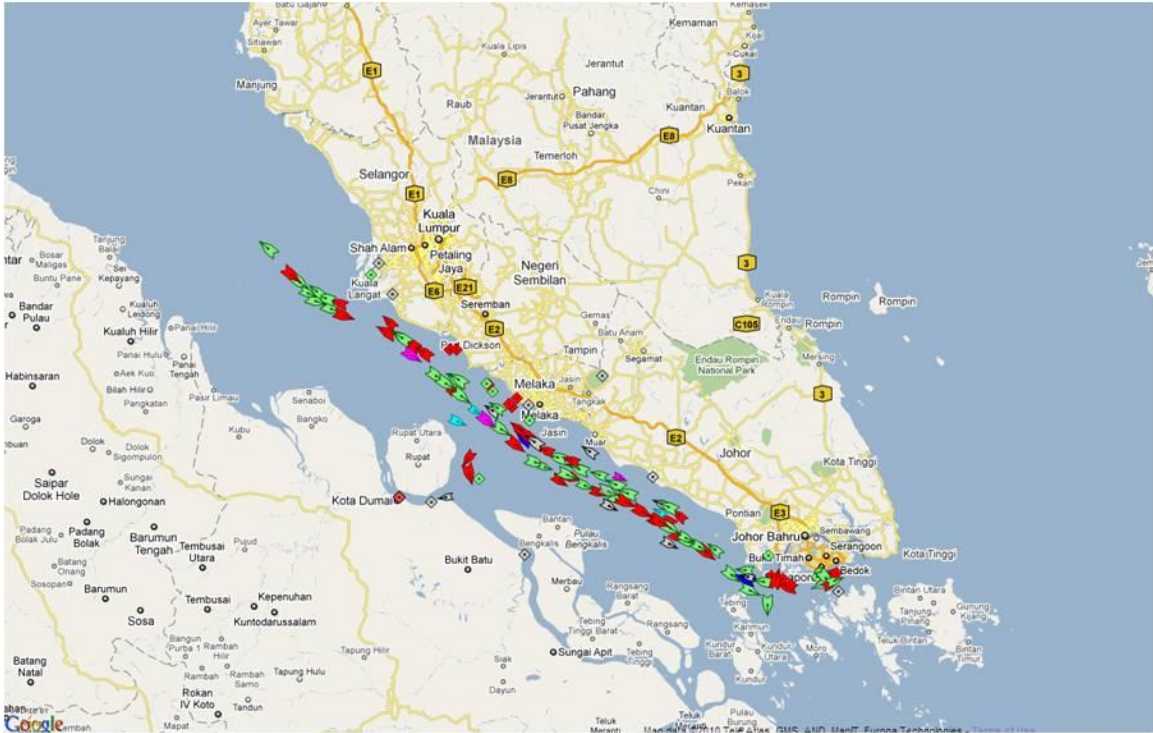


Figure 6: Snapshot of the Strait of Malacca, 23 Mar 10, 1824Z
(Created by the author, using www.MarineTraffic.com/ais, an online real-time tool for tracking worldwide maritime traffic, accessed 24 Mar 10.)

In Figure 6, the red symbols represent oil tankers, while the remaining symbols represent cargo vessels, passenger vessels, yachts, etc.

As Figure 6 shows, the physical challenges of any sort of blockade or quarantine in the Strait of Malacca are daunting. Therefore, the overall viability of a strategy of blockade must be examined through the lenses of both operational feasibility and strategic utility.

Operational Feasibility

At first glance, the sheer congestion of the Malacca Strait makes the feasibility of any sort of quarantine questionable. However, the United States could increase its chances of intercepting oil tankers bound for China by exploiting open-source information on maritime trade, and applying realistic limits on the numbers of tankers expected. While the amount of oil that China imports by sea – 3.2 million barrels a day – is significant, it in fact does not represent very many ships. Of China's top three oil providers – Saudi Arabia, Angola, and Iran – only Saudi Arabia and Iran ship via the

Malacca Strait,⁴ and at 725,000 bbl/day and 425,000 bbl/day respectively, these countries require the use of only one tanker each per day.⁵ The remaining Chinese imports that pass the Malacca Strait (about two million bbl/day) could be shipped with a single Very Large Crude Carrier (VLCC); but, given the likelihood that this oil comes from several countries, it is more realistic to assume that it is shipped via three or four smaller tankers. Thus, the total number of vessels the United States would have to intercept to strangle the flow of Chinese oil through the Malacca Strait is only five or six per day, with an additional one or two vessels per day from Africa opting for the Lombok/Makassar Strait (see Figure 7 next page).

Still, sorting five or six ships from the 137 that transit the Malacca Strait daily would be no easy task. Here, the United States can benefit from open-source information provided by the Automatic Identification System (AIS). AIS is a datalink system used worldwide to coordinate maritime trade, maximize efficiency, and prevent collisions. It is mandatory for use aboard all oil tankers, regardless of tonnage.⁶ AIS data includes, but is not limited to: ship designation, type, flag, cargo, and destination.⁷ In fact, the data used to populate the map in Figure 6 is derived from the AIS architecture. By combining existing intelligence with AIS data, the US Navy could quickly determine which vessels are carrying oil to China, and intercept them well outside the chokepoint of the Malacca Strait.

However, AIS should be exploited with caution. While the vessels carrying oil to China are most likely flagged in other countries, and thus may be more likely to comply with US naval forces, this is by no means guaranteed. Though illegal, a crew can enter deceptive information into AIS, or turn the system off altogether. If AIS deception or denial is suspected, US naval forces would be forced to impose a much more stringent

⁴ Department of Defense, *Military Power of the PRC 2009 Report*, 3-4. Angola, at 596,000 bbl/day, ships through the Lombok/Makassar Straits.

⁵The worst-case assumption is that each exporting country uses its own tanker. However, a tanker classified as a Very Large Crude Carrier (VLCC) is capable of transporting 1.4 to 2.3 million barrels of oil, and could thus transport the combined supply of both Saudi Arabia and Iran. Ultra Large Crude Carriers, that could move all of China's daily oil requirement with a single ship exist, but exceed the maximum depth allowance of the Malacca Strait. In any case, it is unrealistic to assume that all countries that provide oil to China via the Malacca Strait would ship via a single vessel.

⁶ From the United States Coast Guard website, <http://www.navcen.uscg.gov/enav/ais/default.htm>, and http://www.navcen.uscg.gov/enav/ais/AIS_carriage_reqmts.htm.

⁷ www.MarineTraffic.com/ais, accessed 24 Mar 10.

inspection regime, which would not only stretch the joint force's ISR capabilities but also incur mass shipping delays and vastly increase vessel congestion. This, in turn, would increase the likelihood of a collision or catastrophic accident involving hundreds of thousands of tons of crude oil.⁸

Strategic Utility

While a blockade of the Malacca Strait may be operationally feasible under ideal conditions, its strategic utility is questionable. First of all, even if the United States was able to stop the flow of Chinese oil through the Malacca Strait, these imports could arrive via alternate routes, such as the Lombok Strait or Sunda Strait:

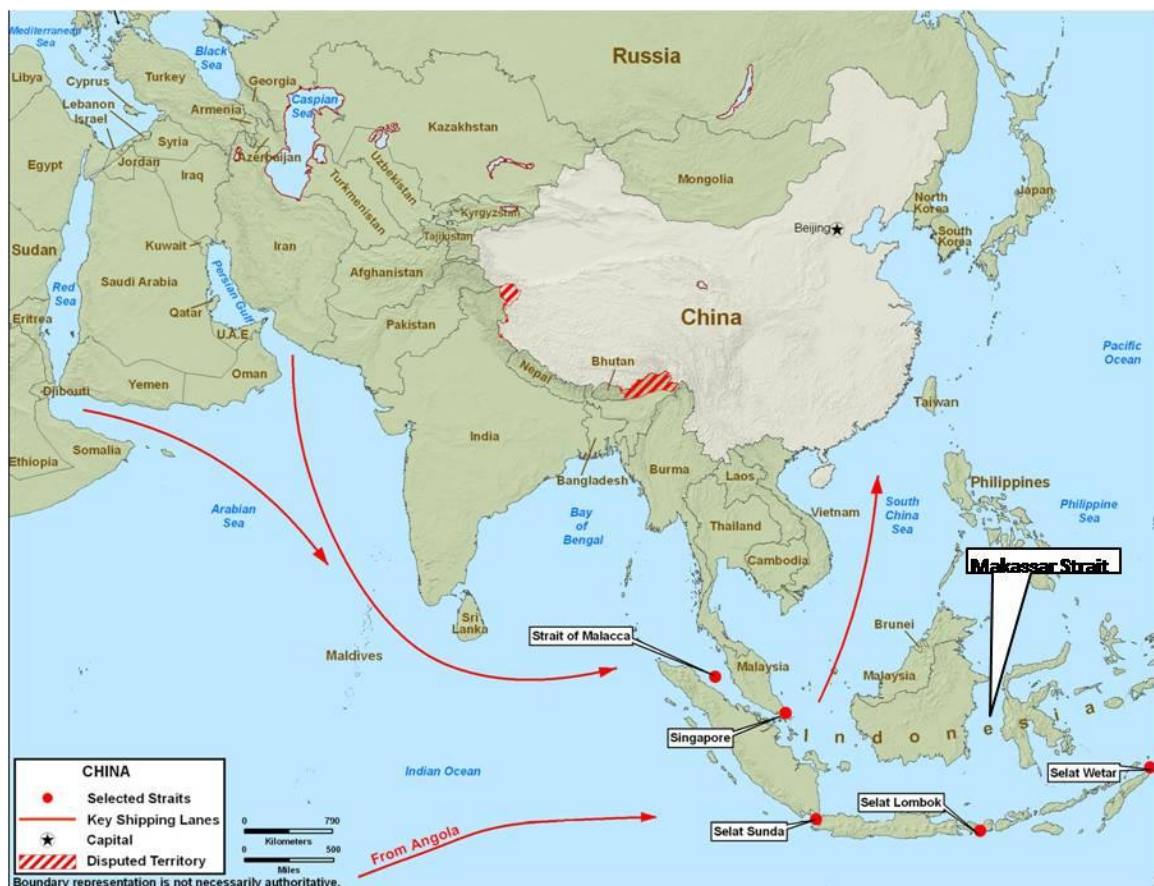


Figure 7: Alternate Shipping Routes
(Adapted from Department of Defense, *Military Power of the PRC 2009 Report*, 4.)

⁸ Cdr Scott Tait, US Navy, Surface Warfare Officer, Office of the Commander, Pacific Fleet, Pearl Harbor, HI, to the author, e-mail, 22 March 2010.

Furthermore, the additional cost incurred by the use of the longer routes would be as little as one or two dollars per barrel.⁹ Secondly, even if the United States was successful in blockading *all* Chinese sea-borne oil imports, the PRC has a 25-day strategic reserve, and China's ability to extend past 25 days through domestic rationing is unknown.¹⁰ Thus the joint force would have to deny Chinese oil imports for *at least* 25 days before any appreciable effect on the PLA would be realized.

The third strategic problem with a blockade involves international reaction. Due to the volatile nature of the global oil market, the uncertainty caused by a blockade could drive up energy prices worldwide. This would presumably have the greatest adverse effect on the economies of third-party countries which, unlike China, were not prepared for war. Furthermore, it is conceivable that allied justification for war with China would involve, to some degree, rejection of China's aggressive claims to exclusive sovereignty within its EEZ. It might therefore be counter-productive to enforce action that inherently limits free sea-borne trade.¹¹ Finally, unlike the naval quarantine during the Cuban Missile Crisis, a blockade of Chinese oil involves a third party with significant strategic leverage: the Organization of the Petroleum Exporting Countries (OPEC). As a blockade would almost certainly lack a United Nations Security Council Resolution (UNSCR) – China has veto power – it would be viewed as an illegal act of war,¹² both against China and against any exporting country whose vessels were detained. The exporting countries could enact a counter-embargo of oil bound for the United States and its allies, likely influencing public opinion in the Pacific and in the Western world against the war effort.¹³

⁹ Andrew S. Erickson and Gabriel B. Collins, "China's Oil Security Pipe Dream: The Reality, and Strategic Consequences, of Seaborne Imports," *Naval War College Review* 62, no. 2 (Spring 2010): 92.

¹⁰ Department of Defense, *Military Power of the PRC 2009 Report*, 4.

¹¹ Cdr Tait, e-mail, 22 March 2010.

¹² Cdr Tait, e-mail, 22 March 2010.

¹³ Such as move is not without precedent. In 1973, the Organization of Arab Petroleum Exporting Countries (OAPEC, a subgroup of OPEC), embargoed the United States, Canada, and the Netherlands in response to the United States' decision to arm the Israelis during the Yom Kippur War. The resulting shock in oil prices split the United States from its allies, with both European countries and Japan formally distancing themselves from the United States' policy in the Middle East. From Robert Bamberger, *The Strategic Petroleum Reserve: History, Perspectives, and Issues*, Congressional Research Service Report for Congress (Washington, DC: 29 July 2008), 1.

Conclusions

A blockade of Chinese oil imports through the Malacca Strait may be feasible, but could be strategically counterproductive. Therefore it should only be entertained as a stand-alone option for confronting *limited* Chinese aggression – such as a blockade of Taiwan – during times when prior military commitments prohibit a more robust US response. While any blockade measures would place some economic burden on China, and perhaps expose the PRC's inability to control the seas regionally, these effects could be offset by the PRC's use of alternate routes and the exploitation of its strategic petroleum reserve. Furthermore, the United States would risk significant world-wide backlash against its policy, perhaps driving up energy prices across the globe, and inviting oil-exporting countries tied to China to use their influence in the worldwide energy market to pressure the United States and its allies to change their policy.

Chapter 3

Conventional Compellence

Military strategy can no longer be thought of as...the science of military victory.... Military strategy, whether we like it or not, has become the diplomacy of violence.

- Thomas Schelling

...[compellence], at least in conventional wars, succeeds when force is used to exploit the opponent's military vulnerabilities, thereby making it infeasible for the opponent to achieve its political goals by continued military efforts.

- Robert Pape

Introduction

The United States may be able to change the PRC's behavior by manipulating the delicate balance of costs and benefits through a campaign of conventional compellence.¹ By taking action to undermine the PRC's confidence in its own strategy, and exposing the possibility of military failure, the United States may be able to compel China to abandon its military adventure against Taiwan in order to preserve higher-priority objectives such as regional hegemony and continued economic expansion.² Compellence is a delicate business. The United States must employ selective violence to convince the CCP that catastrophic damage is both imminent, and, if the situation remains unchanged, inevitable.³ It is only through this realization that the CCP will be compelled to negotiate and accept an outcome favorable to the United States. However, compellence carries with it certain demands on the coercer, and successful compellence may require that the coercing state achieve strategic effects beyond its operational grasp.

¹ Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 4.

² Pape, *Bombing to Win*..., 10.

³ Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966), 3.

Types of Compellence

In its most basic form, compellence requires the creation of an environment in which the enemy is forced to concede that failure is inevitable but complete defeat is avoidable. The enemy retains the choice: continue down the path of failure or decide to end hostilities and bargain for a peace that is acceptable to all parties while falling short of both victory and defeat.⁴ In the methods of punishment and risk compellence, coercing states use the suffering of a target state's civilian population to influence the decisions of its enemy.⁵ Conversely, a policy of decapitation seeks to compel the enemy to sue for peace by eliminating key members of its leadership.⁶ These methods are inappropriate to the situation the United States faces with China, as the use of civilian suffering clashes with US doctrine and values, and the direct targeting of the CCP risks escalation with a nuclear-armed China. However, the United States may be able to employ denial compellence – the destruction of specific *military* capabilities to lead the enemy to the unavoidable conclusion that *military* failure is inevitable.⁷ Furthermore, it is denial compellence that is best suited to the conventional warfare preferred by the United States, as this method of warfare usually lacks the indiscriminate destruction that influences decisions in punishment and risk strategies.⁸

Elements of Successful Compellence

Regardless of the methods employed, successful compellence requires that coercing states know what the enemy holds dear, and what the enemy fears.⁹ Coercing states must not merely *project* the intention and capability of destroying something treasured by the enemy, they must actually *possess* that intention and capability.¹⁰ Furthermore, acts of compellence must always retain connectedness to the desired change in enemy behavior. It must be clear to the enemy exactly what behavior will not be tolerated, and it also must be clear that the cessation of the behavior will be accompanied by a cessation of violence.¹¹

⁴ Schelling, *Arms and Influence*, 1.

⁵ Pape, *Bombing to Win...*, 57.

⁶ Pape, *Bombing to Win...*, 57.

⁷ Pape, *Bombing to Win...*, 19.

⁸ Pape, *Bombing to Win...*, 19.

⁹ Schelling, *Arms and Influence*, 3-4.

¹⁰ Schelling, *Arms and Influence*, 36.

¹¹ Schelling, *Arms and Influence*, 88.

With regard to denial compellence, success comes through the elimination of certain military capabilities essential to the enemy's strategy. However, simply attacking fielded forces is both insufficient and undesired – targets must be picked that represent critical capabilities without which the enemy's prospects for military success fade.¹² Furthermore, the military pressure in denial compellence must be relentless; otherwise, the enemy could exploit cease-fires to rebuild critical capabilities and address gaps in force structure.¹³ Finally, for denial compellence to succeed, acts of the coercing state must make clear that demands are confined to the territory in dispute – the target state risks no loss of homeland security and incurs no undue punishment by choosing to end hostilities.¹⁴

Compellence and the PRC

If it is assumed that denial compellence is the only viable form of compellence available to United States, then the joint force faces an interesting dilemma in its efforts to compel the PRC through conventional military means. While any US strategy with regard to Taiwan can accept the requirement of denial compellence that the enemy's homeland security not be unduly threatened, the joint force is still faced with the daunting task of destroying enough of the PLA's capability for the CCP to reach the conclusion that military success against Taiwan is unlikely. Given the capabilities of the PLA and the threats to the joint force across all warfighting domains, as described in detail in Chapter 1, the required level of PLA force destruction may exceed US capability. Compounding this is the fact that asymmetric options, that avoid direct confrontation with the PLA, may lack the connectedness required to convey the message of compellence accurately. For example, the economic blockade discussed in the previous chapter might be misinterpreted and fail to convince the CCP that SRBM attacks against Taiwan and Okinawa are unacceptable.

But this is not to say that conventional compellence cannot work. The fundamental requirement of any form of compellence is to know what the enemy fears and holds dear.¹⁵ Here the PRC, and specifically the CCP, may provide the

¹² Pape, *Bombing to Win*..., 1 and 29.

¹³ Pape, *Bombing to Win*..., 31.

¹⁴ Pape, *Bombing to Win*..., 20.

¹⁵ Schelling, *Arms and Influence*, 3-4.

United States with the leverage point it needs to influence China's behavior. In China's specific strategic situation, the CCP must simultaneously fear failure in its attempt to seize Taiwan and the loss of its ability to perpetuate the economic growth upon which its domestic legitimacy is based.¹⁶ Both the narrow goal of Taiwan and the broader goal of regional hegemony have specific critical military enablers, but these enablers may not be *unique* to either strategic goal. If there is sufficient overlap in the military capabilities that enable these goals, then the joint force may find, in the confluence, a denial compellence target set that exerts maximum pressure on the CCP by threatening all its treasures. And attacking only this target set could alleviate some of the requirement for sustained symmetric confrontation with the PLA while maintaining connectedness to the PRC behavior the United States seeks to influence. This relationship is shown in Figure 8 below.

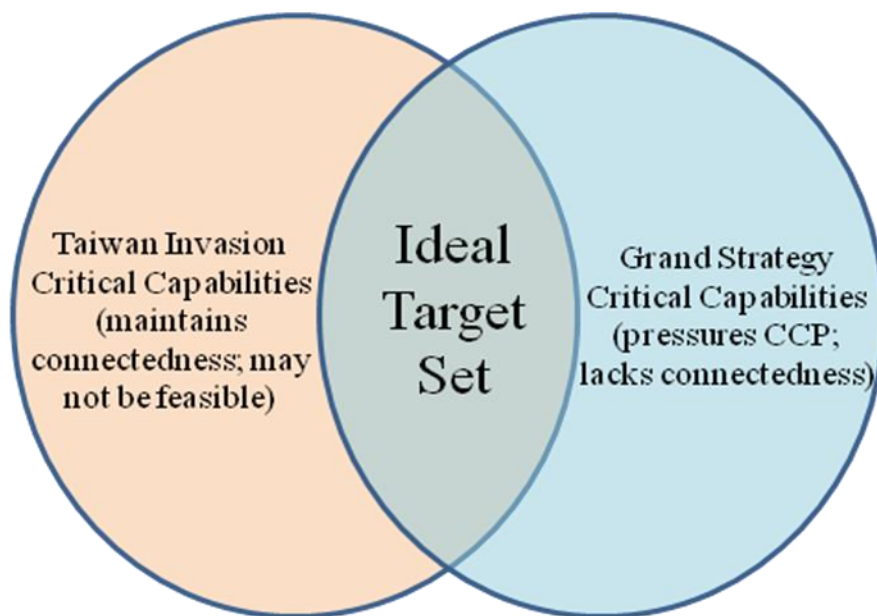


Figure 8: Confluence of Focused and Broad Strategic Critical Capabilities
(Created by the Author)

The ideal target set represented in Figure 8 can be determined by examining the critical military enablers to both the narrow Chinese strategic goal of seizing Taiwan and the broader Chinese strategic goal of regional hegemony. Once determined, the target set

¹⁶ Department of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 2.

represented in the confluence can be evaluated for sufficiency, connectedness, and feasibility:

- Sufficiency: Is destruction of the target set sufficient to render as inevitable the failure of PLA military operations against Taiwan? Does destruction of the target set threaten the PRC's broader strategic objectives of regional hegemony?
- Connectedness: Are the targets in the target set directly related to the specific PRC behavior that the United States deems unacceptable?
- Feasibility: Are the required actions politically acceptable? Do they place third parties under unacceptable risk? Will the destruction of targets result in regional environmental damage? Do the actions required exceed US capability? Will the United States be required to strike preemptively?

Targeting the PRC's Strategy: The Invasion of Taiwan

Historically, PRC aggression against Taiwan has been deterred by the fact that PLA air forces would have to fight for control of the air against ROC and US air forces – a battle the PLA would likely lose.¹⁷ However, as discussed in Chapter 1, the PRC's asymmetric efforts have changed the strategic calculus, and the probability of success of a PRC invasion of Taiwan has increased due to the realistic expectation of PLA air superiority deemed critical to any large-scale PLA operation.¹⁸ This air superiority is enabled by both the PRC's anti-access and area denial efforts. Specifically, the PRC's SRBMs and ASBMs will prevent allied land- and sea-based airpower from massing in the battlespace, and the air forces that do reach Taiwan must contend with a lethal IADS composed of both land- and sea-based surface-to-air defense systems. To compel the PRC via conventional means, US forces must first wrest control of the air back from the PRC, for as Robert Pape states in *Bombing to Win*, "...all coercive air strategies require command of the air..."¹⁹ But the PRC's asymmetric efforts will render US air forces outnumbered and outgunned – the joint force cannot win the battle for the air in the air.²⁰

Therefore, the anti-access strategy of the PRC itself must be attacked. To compel the PRC, the joint force must shake the PRC's confidence in its ability to gain and

¹⁷ David A. Shlapak et al., *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute*, (Santa Monica, CA: RAND Corporation, 2009), 63-64.

¹⁸ Shlapak et al., *Question of Balance*, 53 and 63; Department of Defense, *Military Power of the PRC 2009 Report*, 45.

¹⁹ Pape, *Bombing to Win...*, 58.

²⁰ Shlapak et al., *Question of Balance*, 131.

maintain air superiority over Taiwan.²¹ While the 4th-generation fighter fleets of the People's Liberation Army Air Force (PLAAF) and PLA(N)AF are certainly of concern to joint air forces, the battle hinges on the logistical challenges of prosecuting an air war from hundreds of miles away, outside SRBM and ASBM range. Furthermore, even if the ballistic missile anti-access measures can be overcome, it is the land- and sea-based IADS that offers the most effective protection of the PLA's critical center of gravity: the amphibious invasion fleet. To succeed, the joint force must create an environment in which the CCP is convinced of impending PLA failure, and to do this it must negate part or all of the PRC's anti-access and area denial measures, thus exposing the invasion fleet to attack.

Defeating PRC Anti-Access Measures

The PRC's SRBMs and ASBMs are the critical enablers of the PRC's ability to deny access to US air forces. While both employ similar BMD countermeasures, SRBMs are considerably more difficult to counter due to the fact that they are targeted on fixed sites. Thus they require no perishable, refined targeting information or terminal guidance updates to destroy their targets. Furthermore, like ASBMs, SRBMs are launched from mobile launchers on the Chinese mainland, making them extremely difficult to locate and destroy prior to launch.²² Barring a significant technological leap rendering kinetic BMD against maneuvering re-entry vehicles viable,²³ the only plausible defense against SRBMs is the construction of hundreds of massive aircraft shelters on Taiwan and Okinawa, an effort whose cost likely exceeds allied capacity.²⁴

While the United States may have to accept an inability to counter the SRBM, and relocate land-based air forces to facilities outside of SRBM range, the ASBM threat is more porous. While the ASBM employs the same BMD countermeasures as the SRBM, the ASBM requires the support of persistent, broad-area maritime surveillance (BAMS)

²¹ Shlapak et al., *Question of Balance*, 118 and 121.

²² Shlapak et al., *Question of Balance*, 34; O'Rourke, *China Naval Modernization (2009)*..., 5.

²³ Evidence that such measures are neither currently nor projected to be viable can be found in Shlapak et al., *Question of Balance*, 125-126; Roger Cliff et al., *Entering the Dragon's Lair: Chinese Anti-access Strategies and Their Implications for the United States*, (Arlington, VA, RAND Corporation, 2007), 93; and Ronald O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities -- Background and Issues for Congress*, Congressional Research Service Report for Congress (Washington, DC: 23 December 2009), 4.

²⁴ Shlapak et al., *Question of Balance*, 89.

and refined targeting data prior to launch.²⁵ Furthermore, the ASBM requires accurate terminal guidance to hit its moving target. The PRC meets its maritime surveillance requirement with its backscatter over-the-horizon radar (OTH-B). Refined targeting and identification of potential targets can be accomplished via space-based maritime ISR assets (satellites) or atmospheric and subsurface ISR assets (aircraft, drones, and submarines).²⁶ The United States could counter the ASBM threat by denying either BAMS or maritime targeting and identification information.

Denying targeting and identification is problematic for two reasons. First, the PRC has redundant measures to accomplish this task. Even if the United States could destroy or disrupt all of the PRC's maritime ISR satellites, it is conceivable that targeting and identification could be accomplished with as much accuracy – albeit more risk – using a submarine or an aircraft. Furthermore, the destruction of Chinese satellites – many of which are dual military/civilian use²⁷ – would leave pervasive debris clouds that would deny entire sections of the low earth orbit region to all countries, including the United States.²⁸ Thus attempts by the United States to deny ASBM targeting and identification information through counterspace operations would be both inefficient and politically untenable.

However, the OTH-B represents a single point of failure with regard to BAMS. Though maritime surveillance can be accomplished by shorter-range surface wave over-the-horizon radars and atmospheric ISR platforms, none of these matches the OTH-B for capacity, range, or persistence; and the capabilities of each of these alternative systems fall well short of the range capabilities of the ASBM.²⁹ Destruction or disruption of the OTH-B could severely undermine the PRC's anti-access measures, leaving the CCP

²⁵ O'Rourke, *China Naval Modernization (2009)*..., 5.

²⁶ Cliff et al., *Entering the Dragon's Lair*..., 90; O'Rourke, *China Naval Modernization (2009)*..., 5 and 16; Department of Defense, *Military Power of the PRC 2009 Report*, 21 and 26.

²⁷ Dean B. Cheng, "The Long March Upward: A Review of China's Space Program," in *Harnessing the Heavens: National Defense Through Space*, eds. Paul G. Gillespie and Grant T. Weller (Chicago, IL: Imprint Publications, 2008), 157.

²⁸ James Clay Moltz, *The Politics of Space Security: Strategic Restraint and the Pursuit of National Interests* (Stanford, CA: Stanford University Press, 2008), 40 and 157.

²⁹ OTH-B radars typically have ranges in excess of 1,000NM. Surface wave over-the-horizon radars are usually limited to less than 200NM. Atmospheric platforms (aircraft, drones, etc.) have significant range but lack persistence and are highly vulnerable to counterair efforts. Federation of American Scientists, "AN/TPS-71 ROTH (Re-locatable Over-the-Horizon Radar)," <http://www.fas.org/nuke/guide/usa/airdef/an-tps-71.htm>, 2; and Federation of American Scientists, "Over-the-Horizon Backscatter Radar [OTH-B]," <http://www.fas.org/nuke/guide/china/facility/oth-b.htm>, 1.

scrambling to rebuild its maritime operating picture. History shows that the loss of maritime awareness can be decisive, as it was the loss of such an operating picture that contributed significantly to the Argentinean forces' inability to counter British naval power in the Falklands conflict.³⁰ While denial of the PRC's maritime operating picture will do little to aid land-based airpower, naval aviation could regain considerable advantage as US carrier strike groups (CSGs) could operate inside of ASBM range. This is not to say that these CSGs would operate with invulnerability. The threats from aircraft, submarines, patrol craft, and major surface combatants would still exist, and the possibility that a PLA asset could chance upon a CSG and relay identification and targeting information to PLA 2nd Artillery for ASBM attack is very real. But these are all threats for which the US Navy *already has some ability to counter*, and eliminating assured ASBM attack enables naval aviation – combined with available land-based airpower – to mass forces over Taiwan and contest PLA control of the air.

Defeating PRC Area Denial Measures

It is precisely this control of the air that makes a PLA amphibious invasion feasible.³¹ The PLA's amphibious sealift capability of one infantry division is modest at best, and has not increased significantly over the past decade.³² This relatively small force requires immunity from air attack to conduct operations and secure a lodgment on Taiwan. This immunity is provided via the area denial measure of the PLA, consisting of land-based strategic SAMs, 4th-generation fighters of the PLAAF and PLA(N)AF, and the sea-based strategic SAMs employed by the PLA(N)'s Luyang II and Luzhou destroyers.³³ As shown in Figure 3 on page 16, the PRC's land-based strategic SAMs cover much of the Taiwan Strait, but offer little protection for an amphibious force

³⁰ Shlapak et al., *Question of Balance*, 97.

³¹ Shlapak et al., *Question of Balance*, 53 and 63; Department of Defense, *Military Power of the PRC 2009 Report*, 45.

³² Department of Defense, *Military Power of the PRC 2009 Report*, VIII.

³³ The PLA(N) currently has 13 modern destroyers. As the PLA(N) lacks an aircraft carrier, these destroyers are considered to be the PRC's surface capital ships. The two Luyang II and two Luzhou destroyers employ the HHQ-9 and SA-N-20 SAMs respectively, and account for all of the PLA(N)'s modern sea-based air defense capability. The Luzhous are based in the North Sea Fleet, and are therefore not postured for conflict with Taiwan. The Luyang II's are in the South Sea Fleet and are dedicated to maritime air defense in a Taiwan Strait conflict. Department of Defense, *Military Power of the PRC 2009 Report*, 64; O'Rourke, *China Naval Modernization (2009)*..., 12; and Jane's Sentinel Country Risk Assessments, Chinese Navy Organization and Command and Control, http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNA_S&K2DocKey=/content1/janesdata/sent/cnasu/chins130.htm@current#toclink-j0010004460.

attempting to gain a lodgment, as their range falls short of that required to target tactical aircraft engaging surface assault ships from standoff range. Furthermore, these land-based SAMs are mobile, making them extremely difficult to fix accurately for attack.³⁴ Thus the PRC's land-based SAMs, while extremely capable, are not critical enablers to PLA operational success, nor are they ideal tactical targets for the joint force.

Unlike their land-based counterparts, the sea-based SAMs aboard the PLA(N)'s Luyang II destroyers offer highly capable air defense all the way to the beaches and beyond.³⁵ Historically, air defense has been a weakness of the PLA(N), and its only significant air defense capability rests in a mere handful of modern destroyers like the Luyang II.³⁶ Sinking the PLA(N)'s air defense capital ships in the Taiwan Strait would once again render the entire surface force vulnerable to air attack. The same effect could be achieved by damaging these vessels to the point where they could no longer conduct air defense, or exhausting their supply of SAMs by saturating the airspace with weapons and decoys. This renewed vulnerability to air attack would do much to affect the cross-strait balance of military power, as the PLA would find itself operating without control of the air, a factor that has historically deterred PRC aggression.³⁷

China's inventory of 4th-generation fighters would not affect this phenomenon significantly. It is unlikely that PLAAF aircraft will be used in conjunction with the maritime IADS while that IADS is still functioning, as the PLA's overall ability to conduct joint air operations is lacking.³⁸ Furthermore, the PLA(N)'s air arm is lacking in both numbers and operational range, and could offer little to the air effort despite its ability to operate with the PLA(N)'s surface assets.³⁹ Thus, with the maritime IADS disabled, the PLA's air forces would once again be faced with the task of fighting for

³⁴ Department of Defense, *Military Power of the PRC 2009 Report*, 42; Shlapak et al., *Question of Balance*, 115.

³⁵ Shlapak et al., *Question of Balance*, 114.

³⁶ Department of Defense, *Military Power of the PRC 2009 Report*, 49; O'Rourke, *China Naval Modernization (2009)*..., 12. The PLA(N)'s two Luyang IIs are assigned to the South Sea Fleet and are postured for air defense during conflict with Taiwan. The PLA(N)'s two Luzhou destroyers are assigned to the North Sea Fleet, and could take part in a Taiwan Strait conflict but are not postured to do so. Department of Defense, *Military Power of the PRC 2009 Report*, 64; Jane's Sentinel Country Risk Assessments, Chinese Naval Organization and Command and Control, http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNA S&K2DocKey=/content1/janesdata/sent/cnasu/chins130.htm@current#toclink-j0010004460.

³⁷ Shlapak et al., *Question of Balance*, 63-64.

³⁸ Department of Defense, *Military Power of the PRC 2009 Report*, 15.

³⁹ Department of Defense, *Military Power of the PRC 2009 Report*, 50.

control of the air alone, against US airpower massed from aircraft carriers and augmented by land-based air forces. It is a battle the PLA would likely lose.⁴⁰

The Prospect of Military Failure and The CCP Compelled

The exposure of the PLA's center of gravity, the amphibious invasion fleet, is the decisive point that will compel the CCP to reconsider the PLA's chances for success against Taiwan. Despite the overwhelming numerical superiority of the PLA,⁴¹ its modest amphibious force can ill afford attrition. And as RAND analysts point out, "there is no place to hide in amphibious warfare."⁴² Again, the lessons of the British in the Falkland Islands campaign are particularly revealing. Despite the fact that the Argentines were denied a comprehensive maritime operating picture, the vulnerability of British assault and support vessels to air attack and cruise missile attack was staggering. With a mere *five* air-launched Exocet ASCMs and an assortment of improperly fused unguided bombs, Argentinean air forces sank or damaged nearly half of the Royal Navy's expeditionary force, including major surface combatants.⁴³ Denied its immunity from air attack, the PLA's amphibious assault force would face similar odds, and the probability of military failure would increase dramatically.

Targeting the PRC's Strategy: Regional Hegemony

As discussed at the beginning of Section II, the critical military enabler of China's grand strategy is the deployment of a blue water navy. Vicariously the CCP bases its legitimacy on this force, as it enables the perpetuation of economic growth and expansion, and provides tangible reinforcement of China's claims to its extensive EEZ. Therefore, actions undertaken by the United States which threaten the PRC's blue water ambitions, such as destroying capital ships, destroying support systems critical to blue water operations, or merely conducting operations which demonstrate the impotence of China as a naval power, will do much to compel a change in CCP behavior. Not all of these actions have connectedness, however, to a Taiwan Strait conflict, and thus many of them could be misinterpreted and fail to garner the specific change in CCP behavior sought by the United States.

⁴⁰ Shlapak et al., *Question of Balance*, 63-64.

⁴¹ Department of Defense, *Military Power of the PRC 2009 Report*, 60.

⁴² Shlapak et al., *Question of Balance*, 101.

⁴³ Shlapak et al., *Question of Balance*, 97-99.

Attacking Capital Ships

Of all China's surface warships and submarines, only those assigned to the East Sea Fleet and South Sea Fleet are expected to participate in a conflict with Taiwan.⁴⁴ Therefore, attacking capital ships in the North Sea Fleet, even the prized Luzhou air defense destroyers, would do little to aid allied efforts in the Taiwan Strait and could be misinterpreted by the CCP as a precursor to strikes against Beijing, dangerously tempting escalation.⁴⁵ Conversely, attacks on capital surface ships and submarines assigned to the East Sea Fleet or South Sea Fleet would retain connectedness to a Taiwan conflict. However, as there are 137 total surface combatants (excluding patrol craft) and submarines assigned to these two fleets, the joint force must pick its targets carefully to maximize the direct impact such attacks would have on combat operations in the Taiwan Strait.⁴⁶ Furthermore, it cannot be overstated that compellence does not require the joint force to destroy the entire Chinese blue water navy. The joint force must merely *demonstrate* that it has the willingness, capability, and capacity to destroy what the enemy treasures.⁴⁷ Therefore the joint force would be best served by eliminating those surface capital ships that provide a capability critical to the Taiwan invasion, such as the Luyang II air defense destroyers.

Attacking Support Systems Critical to Blue Water Operations

Another method of rendering the PRC's blue water navy impotent is to destroy support systems that enable it to operate across the region, and indeed across the globe, autonomously. Critical to this effort are the ISR systems that provide the PLA(N) with its situational awareness, and the logistics and replenishment ships that fuel and supply a deployed naval force. Of the two, the logistics and replenishment ships lack a degree of connectedness to a Taiwan Strait conflict. Denial of these resupply ships would do more to prevent the PLA(N) from operating in the South China Sea or Indian Ocean than it would to prevent operations close to China in the Strait of Taiwan. Furthermore, in a conflict close to the Chinese mainland, these ships might prove as difficult to target as

⁴⁴ Department of Defense, *Military Power of the PRC 2009 Report*, 64.

⁴⁵ One of the North Sea Fleet's primary responsibilities is the defense of Beijing. Department of Defense, *Military Power of the PRC 2009 Report*, 64.

⁴⁶ Department of Defense, *Military Power of the PRC 2009 Report*, 64.

⁴⁷ Schelling, *Arms and Influence*, 36.

major surface combatants, while yielding significantly less operational effect in a littoral conflict.

Targeting Chinese ISR systems is not without obstacles either. Regional and global maritime ISR are provided by the OTH-B and China's constellation of maritime reconnaissance satellites, respectively.⁴⁸ For reasons discussed earlier, destroying PRC satellites is politically untenable due to the environmental impact on the low earth orbit region. However, targeting the OTH-B would not only severely impact the PLA(N)'s ability to control the South China Sea, it would also retain connectedness to a Taiwan conflict as its loss would undermine China's ability to monitor waters east of Taiwan and deny China critical surveillance information essential to ASBM operations.⁴⁹

Exposing the Impotence of Chinese Naval Power

The United States could do much to undermine the legitimacy of China as a regional naval power by conducting operations that demand a naval response China may not be able to meet. One such option has already been discussed in Chapter 2. If the Chinese were unable to militarily challenge and break a blockade of the Malacca Strait, their status as a regional naval power would diminish significantly, regardless of the fact that such a blockade might have limited economic impact on China. Similarly, a US-led attack on any or all of the island groups claimed by China, which China argues grant legitimacy to its extensive EEZ, could demand a naval response encompassing the entire South China Sea, and may exceed PLA(N) capacity. All of these options, however, lack a degree of connectedness to a Taiwan Strait conflict. They might be useful as asymmetric strategic distractions, but may do little to compel the CCP to abandon its military operations against Taiwan.

The Confluence

The ideal target set in Figure 8 represents the confluence of PRC critical military capabilities that enable both its narrow goal of conquest of Taiwan and its grand strategic goal of regional hegemony. Those targets that exist in the confluence are critical to the invasion of Taiwan, but retain a degree of feasibility that does not exceed political or operational obstacles. These targets are also essential for the deployment and support of

⁴⁸ O'Rourke, *China Naval Modernization (2009)*..., 5.

⁴⁹ Department of Defense, *Military Power of the PRC 2009 Report*, 28.

a blue water navy, but retain connectedness to the Taiwan Strait conflict. With regard to the invasion itself, China's anti-access and area denial capabilities grant the PLA reasonable expectation of air superiority during its amphibious assault. Of the anti-access capabilities, only the ASBM is subject to US countermeasures, as unlike the SRBM the ASBM requires broad-area maritime surveillance that can be denied by targeting the OTH-B. Furthermore, the PRC's area denial capabilities can be countered by sinking or severely damaging the Luyang II destroyers, as the land-based SAMs are both more difficult to destroy and less effective at protecting the invasion fleet.

With regard to China's hegemonic goals, attacks on capital ships of the PRC's blue water navy, particularly its modern destroyers, could do much to demonstrate to the CCP that its hegemonic ambitions are at risk. Not all capital ships in the PLA(N), however, represent a connectedness to operations against Taiwan, and the United States would be best served by attacking those blue water ships most essential to the Taiwan conflict, such as air defense destroyers. Similarly, the United States could attack the ISR or logistics systems that support the blue water navy. But logistics-support targets lack connectedness to a local war with Taiwan, and political restraints would prevent attacks on satellites, leaving the OTH-B as the only supporting system that retains both feasibility and connectedness. A summary of this analysis, and the ideal target set it produces, is shown below in Figure 9.

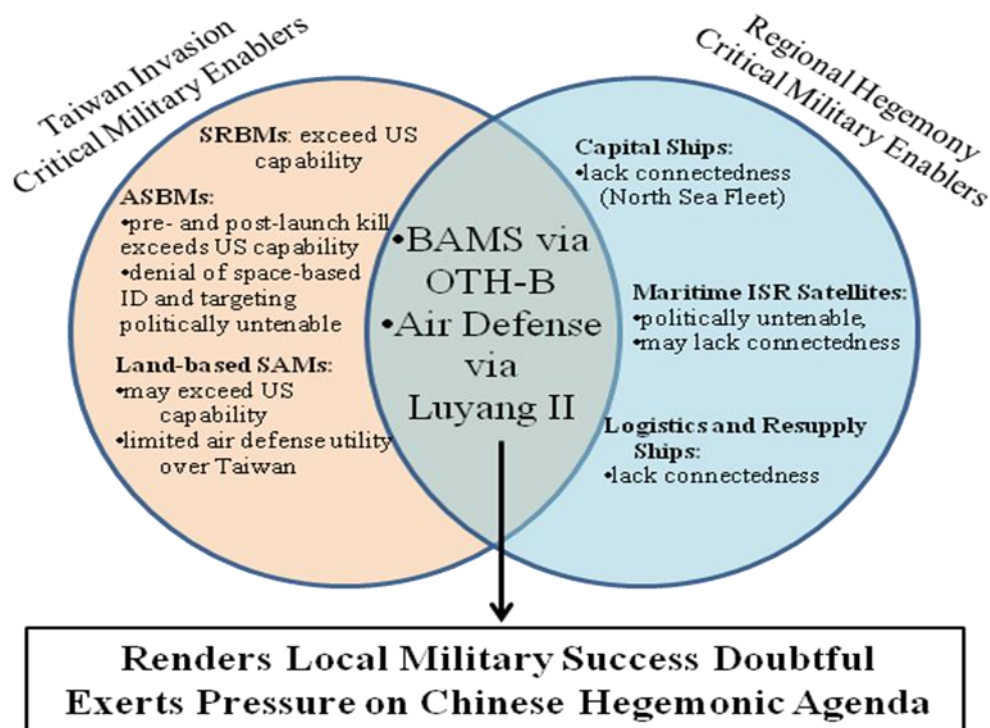


Figure 9: Confluence of Narrow and Grand Strategic Military Enablers and The Ideal Target Set
 (Created by the Author)

Evaluation: Sufficiency, Connectedness, and Feasibility

The target set that drives the United States' compellence effort must pass the tests of sufficiency, connectedness, and feasibility discussed at the beginning of this chapter. Destruction of these targets, or denial or disruption of the services they provide, must be sufficient to convince the CCP that PLA military failure is likely while simultaneously threatening the PRC's regional hegemonic objectives. Also, military actions against the target set must maintain connectedness to the particular PRC behavior – military operations against Taiwan – that the United States seeks to influence. Finally, these military actions must be feasible. They should be politically acceptable, and should not place neutral countries at additional risk or cause undue damage to the regional or global environment. They should be within the joint force's capability and capacity, and any requirement to strike preemptively must be thoroughly addressed.

Sufficiency and Connectedness

The requirements of sufficiency and connectedness will be examined briefly here, as they have been addressed previously in this chapter during the analysis that led to the ideal target set. Striking the OTH-B and the Luyang II destroyers ultimately exposes the modest PLA invasion fleet to attack from the air, and leaves it subject to attrition that it cannot afford. As both targets are used directly in, or in direct support of, an invasion of Taiwan, they retain the connectedness essential to compellence. The OTH-B must be eliminated to permit the massing of airpower over the Taiwan Strait, and the destruction of the Luyang II destroyers is required to negate the area denial their advanced sea-based SAM systems provide. These actions leave to the PLA's various air forces the task of fighting alone for control of the skies against US airpower, a concept that has previously deterred PRC aggression. Furthermore, the permanent or even temporary loss of the BAMS provided by the OTH-B and the power projection represented by the Luyang II capital ships does much to expose to the CCP the risks of losing the military enabler critical to its grand strategic goal of regional hegemony. China's longstanding ambition to play a greater role in the Pacific and globally has historically had a great influence on CCP behavior.⁵⁰ While these actions do not alone defeat the PLA, they raise the risks of local and global strategic failure to the point where these risks far outweigh the benefits of the invasion, and according to DOD, "Beijing appears prepared to defer the use of force as long as it believes ... the costs of a conflict outweigh the benefits."⁵¹ Thus, actions to eliminate the OTH-B and the Luyang II destroyers are both connected to the message of compellence and sufficient to compel the CCP to change its war policy.

Political Feasibility

The dominant question regarding the feasibility of any military operation against China is: are the required actions politically acceptable? The first target in the ideal target set, the OTH-B, rests on the Chinese mainland, and the politics of mainland strike, even through conventional means, against a nuclear-armed belligerent state are delicate to say the least. While the argument can be made that strikes against US deployed forces are politically equivalent to strikes against the Chinese mainland, this argument is not

⁵⁰ Peter Brookes, "Why China Worries the Pentagon," *The Early Bird*, 16 October 2009, <http://ebird.osd.mil/ebfiles/e20091006708016.html>, 2.

⁵¹ Department of Defense, *Military Power of the PRC 2009 Report*, 41.

universally accepted. The essence of the problem lies in what Thomas Schelling calls the “California principle,” which states that attacks on deployed forces, ships at sea, or forward bases do not carry the same political weight as attacks on the homeland.⁵² That the United States would retaliate for an attack on US soil is obvious; that the United States would strike another sovereign country in response for an attack on a third country or on US military forces is an intention that must be conveyed preemptively and persuasively.⁵³

Regarding third countries, the United States has two options: Japan and Taiwan. Overtly stating that attacks on Taiwan will engender US strikes against the Chinese mainland is politically unacceptable, as such statements in peacetime could embolden Taiwanese nationalism and dramatically increase cross-strait tension. There is less political risk in declaring attacks on Japan, represented by strikes on US bases on Okinawa, as a catalyst for strikes against the Chinese mainland.⁵⁴ However, such a demarche places the joint force in an interesting operational paradox. Okinawa will almost certainly have to be evacuated preemptively on the assumption that combat units that remain on the island would be decimated by SRBM strikes. Abandoning the island, however, nullifies much of its military significance. Thus, the Chinese may be able to achieve the effects of an SRBM campaign against Okinawa without firing a shot, and could conceivably gain significant diplomatic leverage by condemning a US strike against their homeland that was not precipitated by a Chinese strike on Japan.

Therefore, the United States will be forced to walk a difficult diplomatic path. The United States must publicly state a policy that is simultaneously strong and clear when it comes to repercussions against the PRC, and sufficiently vague when referencing the associated triggers that will earn the repercussions. Specifically, the United States must declare that conventional strikes against the Chinese mainland can be expected by the CCP in response to any attack, *or preparation to attack*, US deployed forces or ships at sea. Only through this type of demarche will the United States be able to preempt the argument of the California principle and make even limited strikes against the Chinese mainland politically tenable.

⁵² Schelling, *Arms and Influence*, 58.

⁵³ Schelling, *Arms and Influence*, 36.

⁵⁴ Shlapak et al., *Question of Balance*, 133-134.

Feasibility – Risks to Allied Countries and the Global Commons

Related to the political acceptability of striking targets in the compellence target set is the risk such action places on both allied countries and the common environment. If it assumed that Taiwan accepts the risks associated with US intervention, then the only additional regional country directly supporting the US war effort is Japan. While Japan accepts the stationing of US forces on its homeland, the presence of these forces leaves Japan open to SRBM attack. Chinese SRBMs can indeed reach much of Japan, but it is likely that these weapons would be used against bases on Okinawa rather than against those bases on the main Japanese islands. This is because US bases on the main islands are much farther from the Taiwan Strait, but no farther from China, than the bases on Okinawa, and thus have considerably less military significance.⁵⁵ It is impossible to say definitively whether Japan would consider acceptable the risk of an SRBM attack confined to Okinawa, just as it is impossible to say whether the PRC would preemptively attack Japan at all and risk widening the war.⁵⁶ However, the fact that in Japan rhetoric against US forces garrisoned on Okinawa has actually *decreased* in the age of the Chinese ballistic missile is encouraging. Furthermore, an attack on Japan would confer additional operational flexibility on US commanders, as Japanese forces, constitutionally restrained from conducting offensive war, would be free to engage alongside the US in defense of Japan.

Finally, strikes against the OTH-B in China and PLA(N) capital ships in the Taiwan Strait would not subject the environment to sufficient strain as to affect neutral countries in the region. Recall the PRC's constellation of maritime ISR satellites was rejected as a target partially due to the concern of the pervasive environmental damage to the low-earth-orbit structure that attacking it would yield. And confining maritime strike to a mere subset of the PLA(N) – air defense destroyers assigned to the Taiwan conflict – limits adverse effects on the oceans and confines such effects to the Taiwan Strait.

Feasibility and the Limits of US Capability

The abilities of the US joint force to destroy or negate the OTH-B and the Luyang II destroyers are critical to the success of the compellence campaign. It can be

⁵⁵ Shlapak et al., *Question of Balance*, 86.

⁵⁶ Shlapak et al., *Question of Balance*, 86.

assumed that the OTH-B will be deep inside China and will be defended. While the specific methods the joint force could employ to destroy, degrade, or deny use of the OTH-B exceed the classification level of this discussion, such a target melds perfectly with the joint force's vision of global precision strike that "facilitates dominant maneuver and decisive close combat."⁵⁷ Furthermore, it is limiting to assume that kinetic methods alone are appropriate to this mission. The joint force should leverage every advantage at its disposal, including but not limited to cyber attack and electromagnetic jamming and deception. Whatever the method chosen, the effects must be pervasive. As will be discussed later, the massing of airpower can only take place once the CSGs have moved westward within striking range of Taiwan. This process will take considerable time; disrupting the OTH-B for a mere handful of hours is insufficient.

Once airpower is massed, the task of conducting air interdiction of maritime targets (AIMT) against the Luyang II destroyers becomes feasible for the joint force. This type of mission is considered a fundamental task of naval warfare, and is routinely classified as a core function of the maritime component commander.⁵⁸ Like the strike on the OTH-B, the specific tactics employed to destroy, damage, or otherwise negate the Luyang II exceed the classification level of this discussion. In any case these tactics are at a level of detail impertinent to the development of a compellence strategy; it suffices to say that defeat of the Luyang II is within the grasp of the joint force.

Feasibility and Preemptive Strike

The tyranny of distance faced by the joint force may require preemptive action in order to permit the force to mass airpower over Taiwan in time to contest an amphibious assault. If it assumed that the OTH-B must be dealt with prior to any US CSGs entering ASBM range; then the CSGs might be racing to reach the operational radius of their air wings with sufficient time to project airpower over Taiwan, defeat the maritime air defense of the PLA(N), and exact sufficient attrition on the invasion fleet to prevent a successful assault. According to RAND, the first wave of PLA(N) amphibious assault vessels could reach Taiwan in seven hours, and would need five hours to complete its

⁵⁷ Office of the Chairman, Joint Chiefs of Staff, *Joint Vision 2020 America's Military: Preparing for Tomorrow* (Washington, DC: Government Printing Office, June 2000), 23.

⁵⁸ Air Force Doctrine Document (AFDD) 2-1.4 *Countersea Operations*, 15 September 2005, 5; and Air Land Sea Application Center (ALSA) *Air Operations in Maritime Surface Warfare*, November 2008, vii.

offload of forces.⁵⁹ Thus it is conceivable that the PLA's entire amphibious sealift capacity – one infantry division – could be placed on the beaches of Taiwan in the first 12 hours. Conversely, from the time the OTH-B is rendered inoperative, it will take just over 12 hours for the first US Navy aircraft to arrive over the Taiwanese beaches.⁶⁰ This time requirement could be mitigated by aerial refueling, but eventually the CSGs would have to enter ASBM range to bring the maritime component commander's C2 network to bear on the battle. Furthermore, the strike against the OTH-B will likely not be instantaneous – planning and executing that mission will take time, and additional time will be needed to determine that the desired effects were achieved prior to the CSGs entering ASBM range. Therefore, depending on the rapidity with which the PLA embarks on amphibious operations following its initial strikes, the joint force may be required to strike preemptively against the OTH-B. Certainly waiting for the assault force to sail from mainland China would invite disaster, and it is for this reason that the political triggers for mainland strikes outlined above must include the PRC's *preparations* for attack.

Summary and Conclusions

Conventional compellence is a viable option for confronting PRC aggression, but it is not without risks or obstacles. By targeting the military capabilities that simultaneously enable both the narrow goals of seizing Taiwan and the grand strategic goals of PRC hegemony, the United States can exert maximum influence on the behavior of the CCP. These actions are not only sufficient to expose the likelihood of military failure and the possibility of relative PRC regional decline, they also maintain connectedness to the compellence message. However, the potential requirement for preemptive mainland strikes makes this operation politically risky; and, barring skillful diplomacy prior to conflict, could foster escalation against a nuclear-armed China.

⁵⁹ Shlapak et al., *Question of Balance*, 109. The assault force would cross the 100NM strait at 15 knots. The first wave actually consists of five landings of 20 ships each; each landing takes about an hour to complete its offload.

⁶⁰ The combat radius of an F-18E/F is 390NM in the maritime interdiction role. Assuming the ASBMs keep the CSGs at least 900NM away from the Chinese mainland, the carriers must cross about 400NM of ocean before their air wing can reach the west coast of Taiwan. Using an average speed of 35 knots, this transition takes 11.4 hours. The remaining 400NM to the west coast of Taiwan can be crossed by an F-18 in about one hour. Federation of American Scientists, "F/A-18," <http://www.fas.org/programs/ssp/man/uswpns/air/fighter/f18.html#performance>.

Finally, this strategy requires a significant commitment of US forces and resources. It is not enough in conventional compellence to merely demonstrate capability; one must also demonstrate the capacity to win should a war of attrition ensue.⁶¹ By exposing the amphibious invasion force to air attack, this strategy can do that, but only with the assumption that sufficient military force is available to subsequently defeat this invasion force if required. Therefore, this strategy may not be ideal if a significant portion of the joint force's air and naval power is committed elsewhere.

⁶¹ Pape, *Bombing to Win...*, 32.

Chapter 4

A New Left Hook – Counter Invasion

If the United States is unable to confront the PLA in the manner described in the previous chapter, a counter invasion of areas claimed by China may increase the diplomatic and economic risk to a level the CCP would be unwilling to accept, and require a military response of a magnitude the PLA may not be able to achieve. China justifies the unprecedented size of its EEZ through claims to key island groups in the South China Sea – principally the Paracel Islands in the north and the Spratly Islands in the south (reference Figure 10, next page). As described previously, these claims have produced significant diplomatic tension between China and Brunei, the Philippines, Vietnam, and Malaysia.¹ In addition to these claims, the PRC also disputes the Senkaku Islands in the East China Sea with Japan, and uses this claim to partially justify an EEZ that nearly reaches Japanese shores (Fig. 10).² Furthermore, the PRC has attempted to bolster its claims to the Paracel Islands and Spratly Islands by establishing a regional government embodied in “Sansha City” in the Paracel Islands, with the purpose of providing administrative governance to all of the island groups in the South China Sea.³ Assertion of US military power against any one of these island groups could do much to undermine Chinese claims, threatening PRC economic vitality and bolstering the diplomatic leverage of regional powers who contest Chinese hegemony. Furthermore, a CCP decision to confront such US action with military force could place significant strain on PLA capacity, and threaten its ability to succeed against Taiwan. Such action may also expose the PLA to significant risk of failure, as PLA forces may be required to operate beyond the aegis of the anti-access and area denial systems so critical to their military strategy. A careful balance of objectives and selection of the proper counter invasion site are critical, as the US would seek maximum economic, diplomatic, and military advantage from a single operation.

¹ Department of Defense, *Annual Report to Congress: Military Power of the People’s Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 5.

² Department of Defense, *Military Power of the PRC 2009 Report*, 5.

³ Department of Defense, *Military Power of the PRC 2009 Report*, 5.



Figure 10: The Paracel, Spratly, and Senkaku Island Groups
 (Created by the author, using Google Maps; <http://maps.google.com>.)

Objectives and Site Selection

The selection of an invasion site should ultimately be based on the site's potential to exert maximum diplomatic, economic, and military pressure against the PRC; and should pass the litmus test of operational feasibility. Regarding diplomatic objectives, an invasion site should be chosen that undermines PRC territorial claims contested by other states in the region. The site should simultaneously be of economic importance to the PRC, either because of its proximity to resources or because it enables and justifies an EEZ that encompasses such resources. Finally, the site's location relative to the PLA's force disposition is critical, as the invasion must be planned so as to require, should the PRC decide to counter militarily, the use of PLA assets essential to the invasion of Taiwan.

Site Selection: Diplomatic Potential

The diplomatic leverage gained for the United States through a counter invasion is dependent on the shift in relations between China and its neighbors that such an invasion would initiate. By allowing US forces to operate from bases on Okinawa and its main islands, Japan would already be supporting the US war effort. Therefore, an invasion of the Senkaku Islands would do little to change the diplomatic landscape. However, the governments that dispute the Paracel Islands and Spratly Islands – Vietnam, Brunei, the Philippines, and Malaysia – have been cautiously non-committal regarding support for military action against the PRC. Thus, opposing Chinese claims through counter invasion has its greatest diplomatic potential in the South China Sea. Of the two major island groups, the Paracel Islands are disputed only by Vietnam, while the Spratly Islands are disputed by Vietnam, Brunei, Malaysia, and perhaps most importantly, the Philippines.⁴ Based on the number of countries involved, the greatest diplomatic leverage for the United States would be gained by contesting PRC control of the Spratly Islands. Furthermore, such a move may do much toward galvanizing the support of the Philippines, whose proximity to Taiwan – roughly 200 NM – is of strategic significance.⁵

Site Selection: Economic Potential

From an economic perspective, the Senkaku, Spratly, and Paracel Islands represent critical PRC claims. The Senkaku Islands, which the PRC uses to partially justify its claimed EEZ in the East China Sea, stand in close proximity to the Chunxiao/Shirakaba gas field, jointly under development by China and Japan.⁶ In the south, the Spratly Islands host aggressive energy exploration and exploitation, and define the southern edge of China's EEZ. Furthermore, the Spratly Islands are the closest to the Malacca Strait. While the Paracel Islands are, by far, the most developed, their proximity to Hainan Island (less than 150 NM) does comparatively little to further China's bold assertion of its EEZ. However, due to the Paracel Islands' location, much of the

⁴ Peter J. Brown, "China All At Sea Over Japan Island Row", *Asia Times Online*, 4 March 2010, <http://atimes.com/atimes/China/LC04Ad04.html>, 2.

⁵ *South China Sea*, Map reference no. 737328 (R01788), dated December, 1995.

⁶ Department of Defense, *Military Power of the PRC 2009 Report*, 5.

South China Sea can be controlled from this island group,⁷ which is critical given that 80 percent of the crude oil imported by Japan, Korea, and Taiwan transits the South China Sea.⁸ Thus, from a purely economic perspective, there is no clear optimum invasion site. All of the island groups are linked to Chinese economic vitality either through EEZ justification, energy exploitation, or SLOC control.

Site Selection: Military Potential

The overall military goal of any counter invasion is to force a PRC military response that would require the PLA's redeployment of its Luyang II destroyers. Again, it is the PLA's expectation of air superiority that has changed the strategic calculus regarding an amphibious invasion of Taiwan, and the maritime IADS centered on the Luyang II destroyers is a critical enabler to this air superiority. A brief examination of the possible invasion sites reveals a marked disparity in each site's potential to accomplish this goal. Due to their proximity to the PLA(N)'s North Sea Fleet, the Senkaku Islands are ill-suited for US invasion. Should the PLA require air defense in support of a military response to a US invasion of the Senkaku Islands, such capability could be provided by the North Sea Fleet's Luzhou destroyers and their SA-N-20 SAMs. Thus, the Luyang IIs of the South Sea Fleet would be free to continue their support of invasion operations on Taiwan.

Conversely, operations in the South China Sea would stress the PLA(N)'s South Sea Fleet considerably. However, this does not necessarily mean that any US invasion in the South China Sea would require the support of the South Sea Fleet's Luyang II destroyers. The Paracel Islands' proximity to mainland China brings that island group underneath much of the PRC's anti-access umbrella, severely undermining their strategic utility to the United States. While US submarine forces would be free of the littoral limitations imposed by the shallow waters of the Taiwan Strait, US land-based airpower operating from Guam would face even greater force projection challenges than it would face in operations over Taiwan. Furthermore, assuming the BAMS provided by the OTH-B has not been denied or disrupted, as described in the previous chapter, US aircraft carriers attempting to project airpower over the Paracel Islands would be vulnerable to

⁷ *South China Sea*, Map reference no. 737328 (R01788), dated December, 1995.

⁸ Department of Defense, *Military Power of the PRC 2009 Report*, 5.

Chinese ASBMs. Finally, even if the Paracel Islands, including the main PRC operating base at Woody Island (shown in Figure 11 below),⁹ were taken by US forces,



Figure 11: Chinese Airbase at Woody Island
(Created by the author, using Google Maps; <http://maps.google.com/>.)

the garrison falls within the range of Chinese SRBMs, leaving the air base at Woody Island vulnerable to attack. Thus, the Paracel Islands would provide the United States with no greater strategic utility than Okinawa. The combined ASBM/SRBM threat would prevent the joint force from projecting airpower from the island group or its surrounding waters. Therefore, without a significant air threat to face, the PLA(N) would not need to strip its precious Luyang II destroyers away from a Taiwan operation to support a military response to US aggression in the Paracel Islands.

Unlike the Paracel Islands, the Spratly Islands do not enjoy the coverage of Chinese anti-access capabilities. Referencing Figure 4 on page 16, the Spratly Islands lie well beyond PRC SRBM range, and although the PLA's ASBMs can reach the Spratly Islands, US aircraft carriers could operate beyond ASBM range and still project

⁹ From Jane's Sentinel Country Risk Assessments, China:
http://sentinel.janes.com/docs/sentinel/CNAS_country.jsp?Prod_Name=CNAS&Sent_Country=China&

airpower over the island group.¹⁰ Though the Spratly Islands lack suitable basing for land-based airpower – and the granting of basing rights by the Philippines, Malaysia, Vietnam, or Brunei would require a diplomatic reversal – the presence of US naval aviation would require that any PLA force contesting US control of the Spratly Islands include the indigenous air defense provided by the Luyang II destroyers. Furthermore, a PLA(N) naval force attempting to counter US action in the Spratly Islands would have to cross roughly 600 NM of open ocean, most of it in waters deep enough to permit uninhibited submarine operations.¹¹ Thus, the PLA(N) force would be vulnerable to attrition from US submarine forces across much of the South China Sea. Operations against the Spratly Islands are therefore not only operationally feasible, but also would require the diversion of the PLA's maritime air defense assets supporting an invasion of Taiwan, and place those assets in dangerous waters against a US force operating beyond China's anti-access umbrella.

Site Selection – The Spratly Islands

Given the diplomatic, economic, and military potential of the three island groups, it is clear that the Spratly Islands offer the United States the best invasion site to strategically counter Chinese aggression against Taiwan. From a diplomatic standpoint, Chinese claims to the Spratly Islands are contested by the greatest number of countries by far, and basing rights granted by any of these countries could dramatically shift the strategic landscape. Economically, there is no clear panacea invasion site, but energy exploration and exploitation in the Spratly Islands, as well as the island group's proximity to the Malacca Strait, give invasion of the Spratly Islands clear economic leverage against the PRC. It is in the military analysis, however, that the Spratly Islands become the clear choice. Only the Spratly Islands would require the PRC redeploy its Luyang II destroyers. And as discussed in the previous chapter, loss of the air superiority those

¹⁰ As discussed previously, the F-18E/F Hornet has an unrefueled combat radius of 390NM when configured in the interdiction role. Thus, air wings employing indigenous refueling and launched from US aircraft carriers operating south of the Philippines could conduct operations across the entire Spratly Islands. From the Federation of American Scientists, <http://www.fas.org/programs/ssp/man/uswpns/air/fighter/f18.html#performance..>

¹¹ *South China Sea*, Map reference no. 737328 (R01788), dated December, 1995; and *Asia/South China Sea Mui da Nang to Mui Bai Bung*, Map no. 93030, Defense Mapping Agency, 1996, National Geospatial Intelligence Agency.

destroyers provide could leave the PLA's amphibious invasion fleet vulnerable to air attack and call into question the probability of PRC success in operations against Taiwan.

Conclusions and Options

In the final analysis, an invasion of Chinese holdings in the Spratly Islands offers only one thing to the United States: the *potential* that the PRC will divert resources critical to its invasion of Taiwan and either abandon that invasion or leave the PLA's center of gravity – the amphibious invasion force – vulnerable to attack. But that choice ultimately lies with the CCP. Only the Chinese leadership can decide that the diplomatic, economic, and military value of the Spratly Islands exceeds the potential value of the conquest of Taiwan. Again, the United States is asking the CCP to choose between its narrow goal of Taiwan and its broader goal of regional hegemony, but only the CCP can make that choice.

The United States can, however, raise the opportunity costs of a successful conquest of Taiwan by combining the counter invasion discussed in this chapter with the blockade option discussed in Chapter 2. A simultaneous blockade of Chinese oil through the Malacca Strait and an invasion of island holdings critical to China's EEZ and future energy exploitation may succeed in pressuring the CCP to the point where the PRC simply must respond militarily. Even if the PLA has, or will soon have, the capacity for such a response, it is doubtful that it could meet such a blue-water challenge and conduct an invasion of Taiwan *concurrently*. By combining these strategic options, the United States may be able to force the PRC to make a difficult choice between unification and hegemony, between national pride and economic vitality, and reveal to the CCP how much the PRC stands to lose in order to gain so little.

Chapter 5

Unconventional Warfare

The strategic options presented in the previous chapters share a common thread: by increasing the risk that China could suffer setbacks in its broader strategic agenda of regional hegemony and continued economic expansion, the United States may be able to compel the PRC to abandon its narrower goal of forced Taiwanese re-unification. Unconventional warfare presents an interesting option for increasing that risk. Unconventional warfare involves guerrilla warfare, subversion, and sabotage conducted by indigenous groups inside the sphere of Chinese control, supported by US Special Operations Forces (SOF).¹ Depending on the groups supported and the methods used, the United States may be able to exert strategic leverage over the PRC by striking targets that have significant economic or political impact. Furthermore, it is likely that the CCP would interpret such actions as part of a greater strategy connected to external threats, increasing the likelihood that the message intended by such actions would be correctly interpreted by Chinese leadership.² Unconventional warfare often involves US support to insurgency. While the term “insurgency” currently carries with it a negative connotation, it must be remembered that the United States has historically supported insurgencies when its political goals aligned with those of the insurgents. US support to the French Resistance in World War II and US clandestine support for the Mujahedeen in their struggle against Soviet occupation forces in Afghanistan are just two examples.

Despite the autocratic nature of the PRC regime, the CCP is well aware that domestic unrest can very rapidly turn against the state.³ Indeed, tension inside of China is not uncommon. Despite the unprecedented prosperity the PRC has recently experienced, China ranks near last in its region – ahead of only North Korea and Mongolia – in political stability. Furthermore, the PRC ranks last decisively in social stability, with a lack of demographic stability and social cohesion cited as critical

¹ Joint Publication (JP) 3-05.1, *Joint Special Operations Task Force Operations*, 26 April 2007, GL-16.

² Department of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 2.

³ Department of Defense, *Military Power of the PRC 2009 Report*, 2.

factors.⁴ For decades the PRC has struggled to control Tibetans resistant to Chinese authority, and the reemergence of a group of ethnic Muslims in northwestern China known as the Uighurs have caused the CCP considerable difficulty as the PRC has attempted to populate the northwest with ethnic Chinese.⁵ This says nothing of the Taiwanese themselves, whose sense of a national identity separate from the Chinese continues to rise.⁶ Given the right set of circumstances, and the support of the United States, the actions of one or more of these groups may help the United States increase the risk to China of grand strategic failure, despite its prospects for operational success against Taiwan.

Limitations and Requirements of Unconventional Warfare

While the special operations units designated to conduct unconventional warfare are manned by highly competent individuals, their actions are not without limitations at the tactical, operational, and strategic levels.⁷ SOF are a poor substitute for conventional forces, as they lack the mass and logistical support structure to execute sustained combat operations.⁸ Despite SOF's ability to operate in austere conditions, the covert nature of SOF operations places demands on infiltration and extraction that can quickly exceed the capacity of the force's supporting agencies. SOF missions are generally time-sensitive, reserved for high-value targets of strategic and operational relevance, and often require that commanders accept a level of risk that exceeds that associated with other aspects of joint force applications.⁹

In a broader strategic sense, SOF can grant the joint force commander access to objectives that might otherwise have been beyond the capability of the joint force, but SOF operations rarely produce independent decisive effects.¹⁰ Furthermore, there are

⁴ Jane's Sentinel Security Assessment, Regional Statistics, China and Northeast Asia, Country Stability Ratings, http://sentinel.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?&K2DocKey=/content1/janesdata/sent/cnasu/cnaa014.htm@current&Prod_Name=CNAS&Prod_Name=CNAS&QueryText=REGIONAL+STATISTICS#toclink-j1931227101621703.

⁵ Rodger Baker, "China and the Enduring Uighurs," *Stratfor: Global Intelligence*, 6 August 2008, http://www.stratfor.com/weekly/china_and_enduring_uighurs?ip_auth_redirect=1, 1.

⁶ David A. Shlapak et al., *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute*, (Santa Monica, CA: RAND Corporation, 2009), 27.

⁷ Joint Publications (JP) 3-05, *Doctrine for Joint Special Operations*, 17 December 2003, II-2.

⁸ JP 3-05 II-3.

⁹ JP 3-05, II-3.

¹⁰ JP 3-05, II-2.

limits to the degree of political control that the United States should expect to retain, particularly with regard to US support of insurgencies. While the United States may share a common enemy with a particular dissident group, there is no guarantee that such a group will agree with the United States on objectives, levels of acceptable risk, or even targets and tactics. The methods of such groups could quickly dissociate from what the United States considers acceptable, blurring the lines between freedom fighter and terrorist, and leaving the United States vulnerable to global political backlash. Unconventional warfare is risky business, and threats to remove US support may be insufficient to dissuade an insurgent group from taking action unacceptable to the United States and perhaps counter to its strategic interests. With these limitations in mind, it is useful to analyze the unconventional warfare potential of three groups within the PRC sphere of influence: the Tibetans, the Taiwanese, and the Uighurs.

Motives, Feasibility, and Opportunity

The true benchmark of an insurgency's utility to the United States is its *potential* to create the effects required to increase the overall risk to the PRC of strategic failure. This potential is represented by the insurgency's motivation, the operational feasibility of US support, and the dissident group's access to targets of strategic significance. Sufficient motivation is critical if the United States is to assume that the insurgents will accept the requisite level of risk associated with attacking high-value targets whose destruction or disruption complements US strategy. However, even the most motivated freedom fighters are of little use to the United States if geography prevents SOF support to their insurgency, or if their location prevents them from reaching strategically significant targets. The three potential insurgent movements – the Tibetans, Taiwanese, and Uighurs – will each be examined in relation to these three factors.

Tibetan Separatists

The United States would be hard-pressed to find a Tibetan dissident group sufficiently motivated to oppose CCP rule. Despite the pervasive global attention directed at Chinese-Tibetan relations, and the consistent effort required of the Chinese to maintain political order in their annexed province, there is little if any Tibetan armed resistance to Chinese authority. Beijing has never formally named any terrorist group inside Tibet, and opposition to the CCP is in the form of non-violent demonstration.

Those groups that have previously opposed the PRC through violent means, such as the Khampas of eastern Tibet and the Special Frontier Forces, dissolved decades ago and are no longer a viable threat to the regime. Even the March 2008 riots and ethnic violence in Tibet, spurred by mass migrations of Han Chinese into the region, lacked any semblance of an organized insurgency.¹¹

Further undermining Tibet's potential to the United States are the difficulties associated with supporting unconventional warfare in the region. Tibet's proximity to the Himalaya Mountains and Kunlun Mountains make this region singularly inaccessible,¹² severely impacting SOF's ability to infiltrate, supply fielded forces, and extract personnel. These limitations, particularly the difficulties associated with extraction, in turn increase the overall mission risk and tempt operational infeasibility.

Finally, the Tibetan region lacks targets of sufficient economic or political significance to threaten the strategy of the PRC. Existing and proposed oil pipelines do not transit the region,¹³ and Tibetan separatists would likely be unable to attack targets outside of Tibet due to the same geographic factors that limit SOF's ability to support operations inside the province. For these reasons, the United States should not entertain supporting dissident or separatists groups in Tibet in the hopes of achieving strategically significant effects.

Taiwanese Nationalists

The rising tide of an exclusively Taiwanese identity raises the possibility of a Taiwanese insurgency against PLA forces in the wake of a successful invasion. Survey data show that 51 percent of Taiwan's citizens consider themselves exclusively Taiwanese, while 41 percent consider themselves as both Taiwanese and Chinese. Fewer than 5 percent consider themselves exclusively Chinese.¹⁴ While there are no organized Chinese resistance groups on Taiwan – with no conflict there is no need for them – the

¹¹ The data for this entire paragraph can be found via Jane's Sentinel Country Risk Assessments, http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNA_S&K2DocKey=/content1/janesdata/sent/cnasu/cnaa007.htm@current.

¹² *Global Navigation and Planning Chart, GNC 13, Edition 12*, Map, St. Louis: Defense Mapping Agency, 1987.

¹³ Andrew S. Erickson and Gabriel B. Collins, "China's Oil Security Pipe Dream: The Reality, and Strategic Consequences, of Seaborne Imports," *Naval War College Review* 62, no. 2 (Spring 2010): 95, 96, 99, 102.

¹⁴ Shlapak et al., *Question of Balance*, 15.

expanding cultural rift between the mainland and Taiwan, and the nearly unanimous rejection of an exclusively Chinese identity, suggests that significantly motivated insurgent groups can be expected to oppose PLA efforts to consolidate control of the island.

Supporting such groups would be challenging, but not impossible. It is reasonable to assume that, in the immediate aftermath of an invasion, Taiwanese forces would have control of the land on the eastern side of the island.¹⁵ With sufficient sea or air power to effect infiltration and covert resupply, SOF could place operators on Taiwan, provide logistics support to their efforts, and extract forces when required. Such air and sea operations might indeed be feasible in the aftermath of a successful PLA invasion. Despite the modernization efforts of the PLA discussed in Chapter 1, the deep waters east of Taiwan would allow unrestricted operation of US submarines, and the mountainous terrain of Taiwan would severely hamper the PLA's effort to project its IADS and C2 infrastructure to the eastern side of the island.

However, what a Taiwanese insurgency has in postulated motivation and operational feasibility, it may lack in strategic significance. Because such an insurgency would be confined to the island itself, it lacks the potential to strike targets that threaten China's broader aim of regional hegemony. Targets that could adversely affect China's ability to perpetuate its economic expansion and secure its diplomatic standing regionally would simply be beyond the grasp of a Taiwanese insurgency. Furthermore, the need for the Taiwanese to engage in insurgency admits a certain level of defeat, as such an insurgency would only be required after significant operational setbacks and a failure to prevent a PLA lodgment on the island.

A Taiwanese insurgency is the only effort of its kind, however, that would have access to the invader's operational center of gravity: the amphibious assault force. As discussed in Chapter 3, the PLA(N) can sealift only 31,000 troops per day, assuming *no attrition*.¹⁶ Direct guerilla action against this relatively small force may be sufficient to inhibit PLA advances long enough for Taiwan's 190,000-strong regular force and one

¹⁵ There are few, if any, suitable landing sites on the eastern side of Taiwan. Furthermore, assaulting the eastern side of the island would require the invasion force transit a significantly increased distance, in deep water and exposed to interdiction. Shlapak et al., *Question of Balance*, 106.

¹⁶ Shlapak et al., *Question of Balance*, 105-106.

million-strong reserve force to achieve decisive effects through attrition.¹⁷ Finally, because the United States has access to Taiwan in peacetime, a Taiwanese insurgency could reap the benefits of planning and training prior to conflict, and its insurgents could have access to pre-positioned stockpiles of munitions and supplies.

Uighur Separatists

China's Xinjiang Province, in northwest China, is home to a Muslim Turkic ethnic minority known as the Uighurs (see Figure 12 below). Despite persistent Chinese influence over the Xinjiang region since the 1700s, the Uighurs have maintained a culture and language distinct from the Han Chinese.¹⁸ Since the consolidation of control by the



Figure 12: Xinjiang Uighur Autonomous Region
(Reprinted from Baker, “China and the Enduring Uighurs,” 1.)

CCP across communist China, an assortment of Uighur dissident groups have opposed Chinese rule, most of them violently, with varied but usually unsuccessful results.¹⁹ Modern opposition is almost entirely embodied in two insurgent groups: the East Turkistan Islamic Movement (ETIM) and the Turkistan Islamic Party (TIP).²⁰ The willingness of these groups to accept risk and their motivation to oppose Beijing have not been wanting. Since the mid-1990s, the violent opposition of these groups to Chinese

¹⁷ Shlapak et al., *Question of Balance*, 106.

¹⁸ Baker, “China and the Enduring Uighurs,” 1-2.

¹⁹ Baker, “China and the Enduring Uighurs,” 2.

²⁰ Baker, “China and the Enduring Uighurs,” 1.

authority has been sufficient to compel the PRC to appeal to the Shanghai Cooperation Organization (SCO) to consolidate Central Asian opposition to the Uighurs.²¹

While the motivation of Uighur opposition is beyond question, the prospect of US support to Uighur insurgencies carries with it operational as well as political obstacles. The western portions of Xinjiang Province are 350-500 NM from the closest US bases in Afghanistan, over mountainous terrain and, if a direct route is taken, across the borders of Tajikistan.²² A further 350 NM of forbidding terrain, skirting the barren Lop Nor nuclear test site, separates the western side of Xinjiang from the populated areas to the north.²³ Thus, covert infiltration, resupply, and extraction of SOF would present considerable challenges.

Politically, offering US assistance to either the ETIM or the TIP may be infeasible. The lack of political control discussed earlier, combined with the questionable methods and sordid history of these groups, may prevent US policy-makers from striking an alliance. In September of 2002, at the behest of China, the United States declared ETIM a foreign terrorist organization, and a year later a joint US-Pakistani operation in South Waziristan killed its leader, Hasan Mahsum.²⁴ By then, ETIM ties to terrorist support networks in Pakistan and Afghanistan had been well established.²⁵ While the TIP is not currently listed by the United States as a foreign terrorist organization,²⁶ its association with the ETIM and its claim of responsibility for a series of attacks in August, 2008, make US support increasingly problematic.²⁷ US support for organizations that have been labeled as, or have close associations with, terrorist organizations may politically be a “bridge too far” under all but the most dire of circumstances.

But the strategic potential of a Uighur insurgency cannot be overstated. Unlike insurgencies in Tibet or even Taiwan, which can do little to impact PRC economic security, an insurgency in Xinjiang would have access to existing and proposed overland

²¹ Baker, “China and the Enduring Uighurs,” 3; and Department of Defense, *Military Power of the PRC 2009 Report*, 30.

²² Google Maps, <http://maps.google.com/>.

²³ Google Maps, <http://maps.google.com/>.

²⁴ Baker, “China and the Enduring Uighurs,” 3.

²⁵ Baker, “China and the Enduring Uighurs,” 3.

²⁶ State Department, “Foreign Terrorist Organizations – 19 January, 2010,” <http://www.state.gov/s/ct/rls/other/des/123085.htm>

²⁷ Baker, “China and the Enduring Uighurs,” 1.

oil pipelines, as well as one of the PRC's strategic petroleum reserves. As Figure 13 below shows, the Kazakhstan-China oil pipeline already in operation terminates in Xinjiang, and a 34-million-barrel strategic petroleum reserve is under construction at this site.²⁸

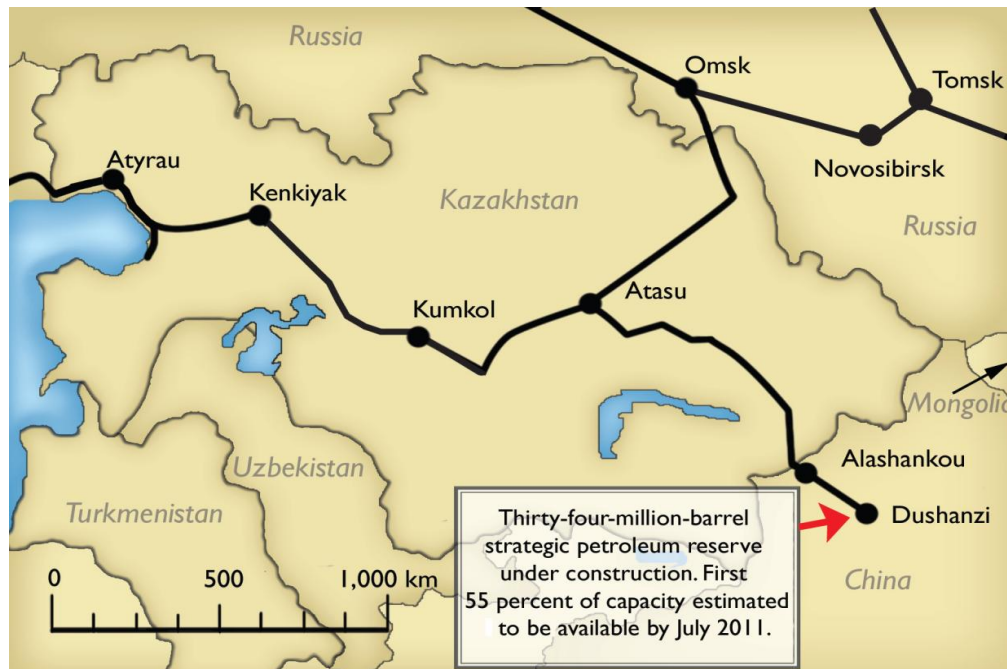


Figure 13: Kazakhstan-China Oil Pipeline and Strategic Petroleum Reserve
(Reprinted from Erickson and Collins, "China's Oil Security Pipe Dream..." 95.)

Furthermore, as shown in Figure 14 below, the proposed pipeline from ports in Pakistan also transits the Xinjiang province. Should an insurgent group in Xinjiang gain access to the pipeline or the petroleum reserve, the subsequent disruption in the flow of oil could endanger the PRC's economic security, and force the CCP to make a difficult choice between devoting its remaining fuel reserves to the PLA in support of operations against Taiwan, or diverting fuel to domestic priorities to allay civil unrest.

²⁸ Erickson and Collins, "China's Oil Security Pipe Dream..." 95.



Figure 14: Proposed Pakistan-China Pipeline
 (Reprinted from Erickson and Collins, “China’s Oil Security Pipe Dream...” 102.)

Summary and Conclusions

The potential of the three insurgent options examined in this chapter varies greatly. In general, they tend to lie at the extremes of geographic or political sensitivity. Tibetan opposition is not only unlikely, it also would be nearly impossible to support with SOF and could do little to create the effects required to threaten the PRC’s grand strategy. Taiwanese and Uighur insurgencies are more promising, but are not devoid of obstacles. While a Taiwanese insurgency could be supported, it could do little to strike targets of significance to the CCP’s grand strategy. However, it is the only insurgency examined here that could directly affect the PLA’s operational center of gravity: its amphibious assault force. Conversely, a Uighur insurgency in Xinjiang province has the potential to strike a crippling blow to China’s energy security, but might be difficult to support for both operational and political reasons.

As with many options that do not by themselves produce independent, decisive effects, the utility of unconventional warfare depends entirely on the broader aspects of the joint force’s strategy. If the United States chooses to confront the PLA through a strategy of conventional compellence, as discussed in Chapter 3, then a planned

insurgency on Taiwan could provide the United States and Taiwan with a complementary, asymmetric option for defeating the PLA through attrition. Should the United States attempt to compel China by threatening the PRC's economic vitality through a blockade of the Malacca Strait and a counter invasion of the Spratly Islands, then sabotage of oil pipelines and attacks on petroleum reserves by Uighur separatists in Xinjiang Province could accentuate the threat to the PRC's grand strategy. Despite their practical obstacles and political risk, both options appear as viable complements to US strategy.

Chapter 6

On the Brink – Nuclear Posturing Against the Iron Dragon

If a nation will lose far more from nuclear war than it can gain or preserve, it will obviously not choose to start one, whatever else is at stake in the confrontation. Losing control of territory abroad to the enemy's conventional military initiative is less intolerable than losing the populations of cities at home to his nuclear retaliation.

- Richard K. Betts

Introduction

No examination of US strategic options for confronting a hostile China would be complete without having addressed the utility of nuclear brinkmanship. By escalating shared risk through implicit or explicit threats of nuclear confrontation, the United States may be able to coerce a nuclear-armed China and thus compel the CCP to abandon its conventional campaign against Taiwan.¹ Policies of nuclear brinkmanship, however, are risky, and demand much of the coercer. It is not enough that the coercing state possess the capability to initiate nuclear warfare. The coercer must also establish the credibility of the threat, which entails not only capability but also intent. This is not to say that brinkmanship is without utility, as the United States has historically used nuclear coercion whenever an attack by a nuclear adversary on a US ally seemed possible or likely and the United States lacked the conventional means to deter or defeat the threat.² Paradoxically, the risk to the United States of brinkmanship lies in this very fact – the United States has historically used nuclear coercion *when it was unable to achieve its strategic goals through conventional means*. Thus, initiating a policy of nuclear brinkmanship could signal to an adversary that the United States lacks the capability or resolve necessary for conventional confrontation, and failed nuclear coercion could embolden the enemy. Therefore, the United States should attempt nuclear coercion of China only after the most careful consideration, and should proceed only with the

¹Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966), 91.

² Richard K. Betts, *Nuclear Blackmail and Nuclear Balance*, (Washington, D.C.: The Brookings Institution, 1987), 17.

assurance that the United States would have considerable advantage over China with respect to balance of interests, balance of power, and credibility.

Interests, Power, and Credibility

Past instances of nuclear coercion, and predictions regarding the success of future brinkmanship, can be analyzed through the lenses of balance of interests, balance of power, and contests of credibility. In the balance of interests argument, if both states have the ability to inflict significant damage on each other, then the relative amount of nuclear capability between the states becomes irrelevant. As both sides stand to lose much by going to war, their willingness to commit to war is driven by how much they stand to lose *by backing down*. Here defenders often win the balance of interests, as they are more likely to accept a greater risk of annihilation to protect something they already have, whereas the coercive aggressor risks credibility, but not territory, should brinkmanship fail.³

Conversely, balance of power analysis explains the decisions of adversaries based on how much they have to lose *by going to war*. As the quote at the beginning of this chapter states, a nation that stands to lose much but gain little through nuclear war will not start one. Thus, balance of power analysis is rarely applicable to situations of mutually assured destruction (MAD), as the costs of war for both belligerents would far exceed any potential gain, and advocates of balance of power analysis advise against nuclear brinkmanship in any situation involving nuclear parity.⁴

Finally, brinkmanship between states can be seen as a contest of credibility. Not all nuclear coercion strategies are created equal. In basic, or Type I, deterrence, a state uses the promise of nuclear retaliation to deter an attack. In extended, or Type II, deterrence, a state uses the threat of a preemptive nuclear strike to dissuade an adversary's nuclear or conventional aims against the coercer's allies.⁵ While the credibility of Type I deterrence requires significant technological investment in survivable systems capable of counterstrike, the credibility of Type II deterrence requires a nuclear preemptive strike capability so superior as to render a counterstrike infeasible.

³ Betts, *Nuclear Blackmail and Nuclear Balance*, 14-15.

⁴ Betts, *Nuclear Blackmail and Nuclear Balance*, 15; Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 37.

⁵ Betts, *Nuclear Blackmail and Nuclear Balance*, 10.

When placed in direct comparison, Type II deterrence loses the contest of credibility. If the target state has a viable retaliatory capability, the preemptive strike inherent in Type II deterrence becomes suicidal, and the state attempting coercion is actually likely to be deterred.⁶

The Cuban Missile Crisis is a good example of the contest of credibility between Type I and Type II deterrence. Lacking a viable conventional means of countering impending US aggression against Cuba, the Soviet Union was forced to attempt to dissuade the United States through the threat of nuclear war. Thus the Soviets were employing Type II deterrence to coerce an adversary's conventional actions against a Soviet ally.⁷ However, the nuclear superiority of the United States, and the credible retaliatory capability it represented, exposed the Soviet threat as hollow and the Soviet policy as suicidal. The robust counterstrike capability of the US forces enabled the Type I deterrence of the United States to win the contest of credibility and trump the Type II extended deterrence of the Soviet Union.⁸

Brinkmanship and Taiwan

The risks associated with a policy of nuclear brinkmanship against China become evident when the nuclear postures of both United States and China are analyzed and the resulting situation is examined through the lenses of balance of interests, balance of power, and the contest of credibility. The prospects for success of such a policy quickly become apparent.

The Nuclear Posture of the PRC

The massive modernization efforts of the PLA have had considerable impact on the China's nuclear forces and have offered to the CCP strategic options previously unavailable. As a result of efforts begun in 2000, China has shifted its focus from a stationary, liquid-fueled, and thus vulnerable, intercontinental ballistic missile (ICBM) force to a more flexible and survivable nuclear deterrent based on mobile, solid-fueled ICBMs and submarine-launched ballistic missiles (SLBMs).⁹ Specifically, the PRC now employs a force of road-mobile DF-31 and DF-31A ICBMs, and the PLA(N)'s latest

⁶ Betts, *Nuclear Blackmail and Nuclear Balance*, 10; Pape, *Bombing to Win*, 20.

⁷ Betts, *Nuclear Blackmail and Nuclear Balance*, 110.

⁸ Betts, *Nuclear Blackmail and Nuclear Balance*, 109-123

⁹ Department of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 24 and VII.

ballistic missile submarine, the Jin class or Type 094, is armed with 12 JL-2 SLBMs.¹⁰ As shown in Figure 12 below, the DF-31A can reach the entire United States from launch sites deep inside China.

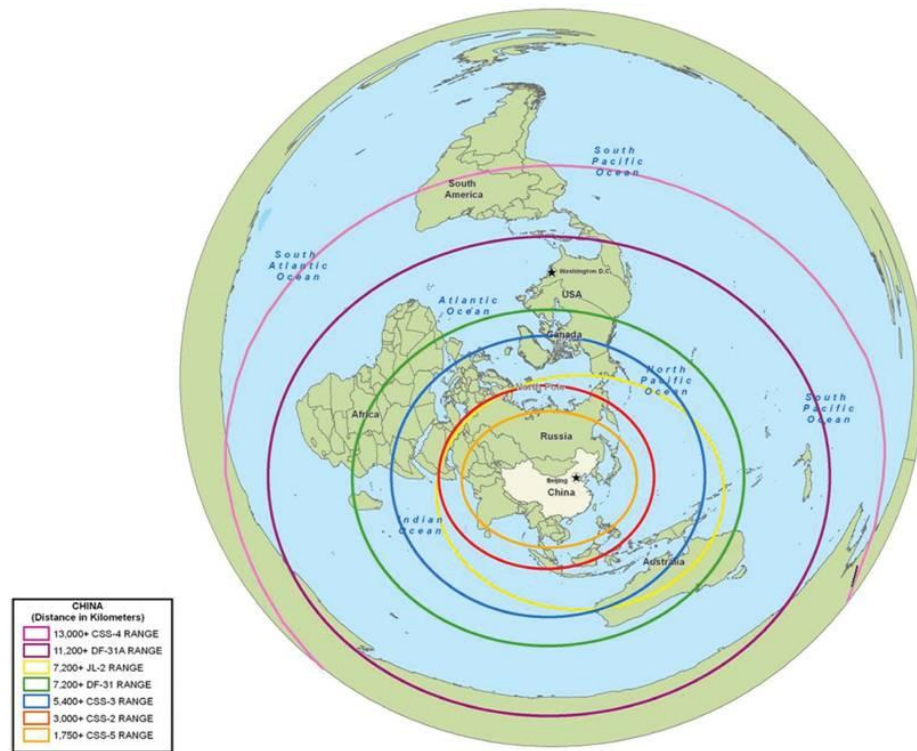


Figure 15: Ranges of Various PRC Ballistic Missiles (DF-31A Shown in Dark Purple)

(Reprinted from Department of Defense, *Military Power of the PRC 2009 Report*, 25.)

Furthermore, the JL-2 SLBM, with a range of nearly 3,900 NM, can reach the western half of the 48 contiguous states, as well as all of Alaska and Hawaii, from mid-ocean launch areas well west of Hawaii.¹¹ Of greater concern than the weapons' range is their survivability. The mobility of both the PRC's land-based and sea-based missiles, combined with the ability to launch quickly with minimal preparation – an ability enabled in part by solid-rocket propellant – makes these weapons extremely difficult to destroy prior to launch.¹² This gives the PRC a credible retaliatory strike capability, which in turn confers on the CCP, for the first time, a feasible strategy of assured destruction.

¹⁰ Department of Defense, *Military Power of the PRC 2009 Report*, 48; and Ronald O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities -- Background and Issues for Congress*, Congressional Research Service Report for Congress (Washington, DC: 23 December 2009), 9.

¹¹ O'Rourke, *China Naval Modernization (2009)*..., 9.

¹² Neil Sheehan, *A Fiery Peace in a Cold War: Bernard Schriever and the Ultimate Weapon*, (New York, NY: Random House, 2009), 419-420.

Thus, even though the nuclear forces of the United States vastly outnumber those of the PRC, China now has the means of unleashing a devastating retaliation against the United States in the wake of a US preemptive strike.¹³

Finally, the advances in PRC nuclear capability serve to enhance, rather than undermine, Chinese policy on the use of nuclear weapons. China has historically invoked a policy of “no first use” of nuclear forces.¹⁴ Though the specific conditions under which this policy applies remain ambiguous,¹⁵ the development of a credible retaliatory capability alleviates any impetus a CCP subjected to coercion might feel to use its nuclear force preemptively or not at all.

US Nuclear Posture and Contemporary Foreign Policy

Recently, the United States has made significant changes to its nuclear posture. Published in April of 2010, the Nuclear Posture Review Report fundamentally alters the US philosophy of nuclear coercion with respect to non-nuclear states. Specifically, the report states that “the United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the Nuclear Non-Proliferation Treaty (NPT) and in compliance with their nuclear non-proliferation obligations.”¹⁶ Regarding nuclear-armed states such as the PRC, however, the new policy stops short of stating that the purpose of the United States’ nuclear arsenal is to deter only *nuclear* attack, and concedes that the United States may still use nuclear coercion to deter nuclear *or conventional* aggression against the United States or its allies.¹⁷ Thus, the current nuclear posture of the United States does not prevent nuclear brinkmanship against the PRC, even if the PRC’s actions are conventional in nature and directed not against the United States but against a US ally.

It is therefore apparent that neither the United States nor China is limited by policy or capability. Both sides possess the ability to conduct nuclear strike against the other, either preemptively or in retaliation. And although China maintains a “no first

¹³ Department of Defense, *Military Power of the PRC 2009 Report*, VII.

¹⁴ Department of Defense, *Military Power of the PRC 2009 Report*, 25.

¹⁵ Department of Defense, *Military Power of the PRC 2009 Report*, 25.

¹⁶ Department of Defense, *Nuclear Posture Review Report*, (Washington, DC: Government Printing Office, 2010), 15.

¹⁷ Department of Defense, *Nuclear Posture Review Report*, 16; Mary Beth Sheridan, “New Nuclear Arms Policy Shows Limits U.S. Faces,” *The Washington Post*, 7 April 2010, <http://www.washingtonpost.com/wp-dyn/content/article/2010/04/06/AR2010040601369.html>, 1.

use” policy, its requirement of basic, or Type I, deterrence does not demand preemptive strike capability. The success or failure of brinkmanship will be decided not by limitations of policy or deficiencies in technology, but by the balance of interests, the balance of power, and the contest of credibility.

Balance of Interests

Given that both the United States and China stand to lose much in a nuclear confrontation, insight can be gained by examining what each side stands to lose by backing down. As stated earlier, the defender, or the state being coerced, is generally more likely to accept increased risk during brinkmanship, as that state usually stands to lose territory by accepting the coercer’s demands.¹⁸ In the situation with Taiwan, however, the balance becomes ambiguous. Neither the United States nor China possesses Taiwan. From the point of view of the CCP, however, Taiwan is a renegade province of the PRC, and acquiescing to the demands of a coercive United States would effectively mean surrendering claims to Taiwan. Conversely, once engaged in brinkmanship, the United States has much to lose by abandoning the policy. As the United States has historically used nuclear coercion when it lacked the conventional means or resolve to meet a nuclear adversary’s conventional threat against a US ally,¹⁹ engaging in brinkmanship could signal a lack of capability, capacity, or intent to the CCP. Subsequently abandoning the policy could cement this perception of weakness in the minds of the CCP and embolden its initiative against Taiwan. Thus, China’s risk of losing Taiwan, which initially tips the balance of interests in the PRC’s favor, is trumped by the United States’ inability to alter its policy of brinkmanship once begun. The United States would win the balance of interests, but only because it had engaged in a policy of brinkmanship for which there would be no way to end its commitment to Taiwan without encouraging conventional war.

Balance of Power

Due to the PRC’s ability to retaliate against any US preemptive strike, the balance of power clearly rests with China. According to balance of power analysis, nuclear coercion is a hollow, almost suicidal, threat when the target state can credibly employ a

¹⁸ Betts, *Nuclear Blackmail and Nuclear Balance*, 14-15.

¹⁹ Betts, *Nuclear Blackmail and Nuclear Balance*, 17.

strategy of assured destruction. Even though the coercer – the United States – possesses a significant numerical advantage with regard to nuclear weapons, its unwillingness to accept even a single nuclear attack on its soil for the sake of a conflict not essential to its survival prevents it from credibly threatening the CCP.

The Contest of Credibility

Finally, the contest of credibility between Type I and Type II deterrence invalidates the threat of nuclear war as a means of dissuading China's conventional aims against Taiwan. Like the Soviet Union in the Cuban Missile Crisis, the United States would be seeking to dissuade a conventional attack by a nuclear adversary against an ally. And like the United States during that crisis so many years ago, the China of today would have sufficient counterstrike capability to expose the threat as absurd.

Conclusion

US nuclear brinkmanship against China over Taiwan is not only an empty threat, but also could be counterproductive and encourage the very conventional war it seeks to deter. Due to the PRC's recently developed assured destruction capability, the United States loses in both the balance of power and the contest of credibility analyses. Furthermore, the interests of the United States exceed those of the PRC only once brinkmanship begins, as subsequent abandonment of the policy of coercion to avoid nuclear war would signal a lack of capability or resolve to confront the threat through conventional means. This could in turn embolden the Chinese against Taiwan. Thus, while the balance of interests would rest with the United States, this is only because these interests would be an inherent consequence of the missteps of brinkmanship. Nuclear brinkmanship is a hollow threat, and is therefore not a viable strategic alternative to confront a hostile China.

Section III

Conclusions and Recommendations

In its 2009 report on the military power of the PRC, the US DOD lists four plausible COAs for the PRC to address its issues with Taiwan through the use of military force. They include maritime quarantine/blockade, limited force coercion, air and missile campaign, and amphibious invasion.¹ The strategic options discussed in the previous chapters are not mirror-image counters to each of these COAs. Rather, they represent a variety of solutions that attack particular aspects of the PRC's strategy. Furthermore, the level of US military commitment required to execute each strategic option is diverse, and prior global commitments may prevent the US from executing the optimum strategic option to confront PRC aggression. This chapter will briefly examine each PRC COA; address the level of US commitment required for each strategic option; and, through analysis of the particular aspect of PRC strategy each option attacks, recommend the optimum strategic option or combination of options for each PRC COA.

PRC COAs

The four PRC COAs postulated by DOD span a range of military options from coercion to rapid invasion. Each COA, however, carries with it its own requirements of commitment as well as risks and limitations. It is therefore useful to briefly examine each COA in terms of its objectives, methods, risks, and limitations.

Maritime Quarantine / Blockade

Of the more than 18,000 commercial vessels that transit Taiwan annually, over 85 percent use the major ports of only three cities: Kaohsiung in southern Taiwan, Taichung in central Taiwan, and Keelung in northern Taiwan.² Thus the PRC could seek to coerce Taiwan through a traditional or unconventional blockade of these ports. A traditional blockade would involve elements of the PLA(N) physically restricting access to these ports, while unconventional measures could achieve the effects of a blockade by

¹ Department of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2009* (Washington, DC: Government Printing Office, 2009), 43-44.

² Jane's Sentinel Country Risk Assessment, Taiwanese Economic Factors, http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=Taiwan&Prod_Name=CNAS&K2DocKey=/content1/janesdata/sent/cnasu/taiws060.htm@current#toclink-j0010019937.

designating critical sea lanes adjacent to the ports as military exercise and live-fire areas.³ Both methods would require considerable commitment of the PLA, for even an unconventional blockade would have to be supported in some measure by tangible, military force. Furthermore, this COA risks international backlash and intervention, as it would challenge the right of innocent passage at sea, and could be viewed as an act of war by the countries whose ships were intercepted or detained.

Limited Force Coercion

In an effort to induce fear and undermine the population's confidence in the Taiwanese government, the PRC could use computer network attack, limited kinetic strikes, or special operations to attack critical elements of Taiwan's military defenses, economic infrastructure, and national leadership.⁴ While this COA demands relatively little PRC military commitment, it risks counter-productivity by galvanizing Taiwanese resistance to PRC aggression, and could ultimately fall well short of its goal of Taiwanese capitulation.

Air and Missile Campaign

The air and missile campaign described in Chapter 1, which fundamentally changes the strategic calculus of the Taiwan Strait by providing the PLA with a reasonable expectation of air superiority, could be employed as a stand-alone coercive option in an attempt to compel the Taiwanese leadership to surrender in the face of the overwhelming likelihood of defeat. By destroying Taiwan's air defenses and C2 infrastructure, the PRC may be able to cast as inevitable the success of a PLA assault on the island, and achieve victory through capitulation while avoiding the costs and risks of an amphibious assault.⁵ The main limitation of this COA is that, due to the time required for the Taiwanese government to decide to surrender, this strategy gives up some element of surprise inherent in an actual invasion that would otherwise have immediately followed an air and missile campaign.

Amphibious Invasion

The PRC has three options available to it for amphibious invasion: small-island assault, measured invasion of Taiwan, and quick-victory invasion (QVI) of Taiwan.

³ Department of Defense, *Military Power of the PRC 2009 Report*, 43.

⁴ Department of Defense, *Military Power of the PRC 2009 Report*, 43-44.

⁵ Department of Defense, *Military Power of the PRC 2009 Report*, 44.

Barring a full-scale assault on the main island of Taiwan, the PRC could gain territory, demonstrate resolve, and show restraint by seizing smaller islands held by Taiwan. For example, the islands of Mazu and Jinmen are immediately adjacent to mainland China and are well within the PLA's operational reach; and assaults on the Pratas Island in the South China Sea or Itu Aba Island in the Spratly Islands are not beyond PLA capacity.⁶ Such operations would carry significant risk, however, as all would fall short of the ultimate objective of forced Taiwanese reunification, and all tempt international backlash and intervention.⁷

Reunification can be forced by a successful invasion of the island of Taiwan itself. A methodical, paced invasion could maximize PLA capacity by allowing Chinese forces to mass prior to assault, but the preparations required would deny the PLA any semblance of surprise. A QVI would preserve surprise, but the associated disorganization might leave PLA capacity wanting. Regardless of the timescale employed, the PLA would be attempting what is arguably the most complicated of joint force military maneuvers, using an untested military force, and operating with the absolute requirements of air and sea superiority and uninterrupted support.⁸

US Strategic Options: Commitment and Capability

Before a strategic option or combination of options can be recommended to confront any of the PRC COAs discussed above, each must be evaluated on its own merits with regard to the level of US commitment required and the particular aspect of China's overall strategy affected. If it is assumed that nuclear brinkmanship is not a viable option; then Malacca blockade, conventional compellence, counter-invasion, and unconventional warfare must each be examined. Prior or overriding US commitments to higher-priority missions may prevent the joint force from leveraging its entire capacity against the PRC. Therefore, it is useful to briefly assess the proposed strategic options based solely on their relative requirement of US commitment, which is represented in Figure 16 below.

⁶ Department of Defense, *Military Power of the PRC 2009 Report*, 44.

⁷ Department of Defense, *Military Power of the PRC 2009 Report*, 44.

⁸ Department of Defense, *Military Power of the PRC 2009 Report*, 44-45.

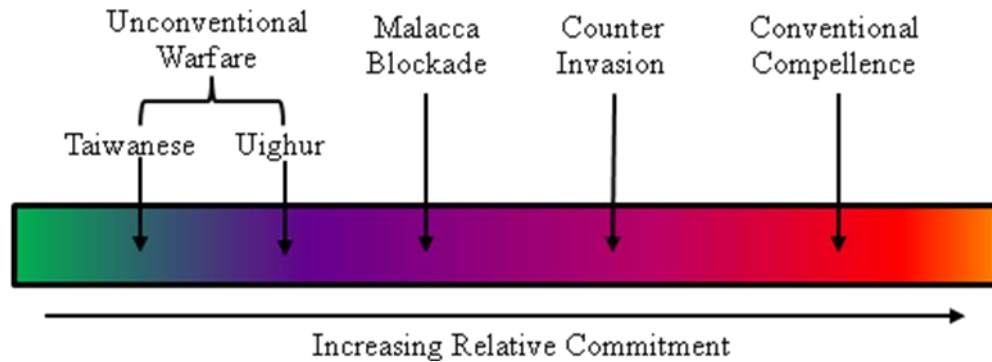


Figure 16: Relative US Commitment Across All Strategic Options
(Created by the Author)

As the figure shows, unconventional warfare involves the least commitment, but the political and geographic accessibility of Taiwan in both peace and war make an insurgency on this island much easier to support than one in Xinjiang Province. A blockade of the Malacca Strait or a counter invasion of the Spratly Islands involve moderate levels of US commitment, while directly confronting the PLA through a strategy of conventional compellence requires the highest levels of US political and military commitment.

The strategic options must also be assessed via their impact on China's strategy. In general, the strategic options can be divided into two broad categories: those that directly confront PRC aggression against Taiwan, and those that seek to influence CCP behavior by threatening China's grand strategic agenda of regional hegemony and continued economic expansion. Conventional compellence and Taiwanese insurgency both directly combat PLA attempts to seize Taiwan by force. Furthermore, conventional compellence is unique in that it is the only strategic option that affects not only PLA attempts to take Taiwan but also PRC goals of regional hegemony. If the US seeks to undermine the CCP's grand strategy, then conventional compellence, counter invasion, Malacca blockade, or a Uighur insurgency could prove useful; as each of these options affect at least some portion of China's energy security, economic stability, diplomatic standing, or internal domestic stability. With the strategic options assessed and compared on the basis of relative US commitment and specific strategic utility, we can return to the PRC COAs.

Recommendations for US Strategy Against the Iron Dragon

In the pages that follow, specific recommendations for US strategy will be made to confront each PRC COA discussed above, based on the level of US commitment available to address the crisis. For each PRC COA, a strategic option or combination of options will be proposed based on whether the United States can afford a relatively low or relatively high level of commitment.

Maritime Quarantine / Blockade

The strain on PLA(N) capacity inherent in either a traditional or unconventional blockade of Taiwan is the critical vulnerability of this PRC COA. Should the US be able to devote only a fraction of its military power to such a crisis, an economic blockade of the Malacca Strait could force the CCP to commit significant portions of its South and East Sea Fleets to the Malacca Strait, severely impairing the PRC's ability to uphold a blockade of Taiwan. Furthermore, even though the PLA(N)'s North Sea Fleet could theoretically assist with a blockade of Taiwan, its deployment would require that the CCP accept additional risk, as the North Sea Fleet is dedicated to the protection of Beijing and is the sole maritime force devoted to potential conflict on the Korean Peninsula.⁹

Should the US be capable of a high level of commitment, then the effects of a Malacca blockade could be exacerbated by an invasion of the Spratly Islands. The combination of these options would create a situation that would surely require a PRC naval response of such a magnitude as to make the continued blockade of Taiwan infeasible.

Limited Force Coercion

Attempts by China to undermine the legitimacy of the government of Taiwan through computer network attack, limited kinetic strikes, and special operations can be met by the United States and Taiwan through similarly limited countermeasures. While the specifics of computer network defense and counterattack exceed the classification level of this discussion, PRC special operations could be countered by a robust and

⁹ Department of Defense, *Military Power of the PRC 2009 Report*, 64; O'Rourke, *China Naval Modernization (2009)*..., 12; and Jane's Sentinel Country Risk Assessments, Chinese Navy Organization and Command and Control, http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNA_S&K2DocKey=/content1/janesdata/sent/cnasu/chins130.htm@current#toclink-j0010004460.

preemptive coalition foreign internal defense (FID) effort of both US and Taiwanese SOF. Furthermore, a clear message could be conveyed to the CCP to cease such action by initiating US support to a Uighur insurgency in Xinjiang Province. Finally, the probability that the limited kinetic strikes that accompany this COA would succeed depend largely on the type of strikes employed. However, regardless of the specifics, the intent of such strikes is to induce fear in the population.¹⁰ This fear could be assuaged by a demonstration of renewed US commitment to Taiwanese security, via combined military exercises and new arms-sales proposals.

Air and Missile Campaign

By removing the bulk of Taiwan's air defense capability through a coercive air and missile campaign, the PRC would seek to convince the government of Taiwan that, with no ability to contest control of the air, its defeat through invasion would be inevitable. The ultimate goal would be to compel Taiwanese capitulation. Should the United States be unable to devote the effort required to directly confront the PRC, the best strategy would be to aggressively empower Taiwanese ground forces – military and civilian alike – to enable a robust defense employing regular and irregular forces. The potential of the resulting defense, combined with the inherent obstacles the PLA would have to overcome to conduct a successful amphibious assault, could negate the sense of inevitability the CCP seeks to foster, and do much to enable Taiwan to resist coercion.

Should the United States be capable of a more robust commitment, then the efforts described above should be augmented by a strategy of conventional compellence. As it is the loss of air superiority to the PLA that empowers this entire PRC COA, the conventional compellence strategy could severely undermine this COA by enabling joint force air operations over Taiwan. Furthermore, should the PRC abandon its attempts at coercion in favor of invasion; the conventional compellence strategy, by exposing the vulnerability of the invasion force, would have set the conditions for PLA failure.

Amphibious Invasion – Small Island Assault

Should the PRC attempt to demonstrate resolve by seizing Taiwanese islands adjacent to the Chinese mainland or in the South China Sea, the United States could

¹⁰ Department of Defense, *Military Power of the PRC 2009 Report*, 43; and Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 57.

counter by invading Chinese-claimed holdings in the Spratly Islands. While this strategy requires a substantial *minimum* amount of US commitment to achieve results, any additional US capacity above that required for counter invasion could be used to augment this strategy through a simultaneous blockade of the Malacca Strait.

With regard to the islands of Mazu and Jinmen – both within a handful of miles of mainland China – the United States and Taiwan would be hard-pressed to eject the PLA from these islands, as they lie in littoral areas well within the PRC’s anti-access and area denial umbrellas. By seizing Chinese holdings in the Spratly Islands, however, the United States could force the CCP to choose between nearby islands that are symbols of Taiwanese sovereignty, and distant islands that justify China’s extensive EEZ and access to South China Sea resources. Furthermore, any decision by the CCP to confront US action militarily would necessitate deployment of a large portion of its navy, which would likely include its Luyang II destroyers. Thus the PLA(N) would lose its capacity to threaten Taiwan, and expose itself to attrition at the hands of US forces in the South China Sea.

Additionally, should the PRC attack Pratas Island in the South China Sea, its expeditionary force would be vulnerable to US naval submarine forces. While Pratas Island is within the PRC’s SRBM/ASBM umbrella, and thus enjoys some immunity from the intervention of US air forces, the waters that surround the island are on the order of one thousand feet deep.¹¹ Thus US submarine forces could operate free from the littoral restrictions that hamper operations in the Taiwan Strait, and could directly threaten PLA operations against Pratas Island.

Finally, while a PLA seizure of Itu Aba Island in the Spratly Islands may be operationally feasible, it would be a strategic disaster. By attacking an objective hundreds of miles from mainland China and its anti-access protective umbrella, the PLA’s expeditionary force would be exposing itself to US air and subsurface attack. At the very least, the PLA(N) would be forced to devote its Luyang II destroyers to the effort to mitigate the threat of US air power, thus making a subsequent invasion of Taiwan unlikely. Also, the deep waters of the South China Sea would enable unrestricted

¹¹ *Asia / China-Vietnam, Mui da Nang to Shenquan Gang*, Map 93036, Bethesda: National Geospatial Intelligence Agency, 2008.

submarine operations against not only the PLA(N)'s combat force at Itu Aba, but also its logistics and support vessels forced to cross hundreds of miles of dangerous waters.

Amphibious Invasion – Paced Assault on Taiwan

With sufficient indications and warning of an impending PLA invasion of Taiwan, the United States may be able to deter PRC aggression with limited commitment. By overtly and preemptively empowering a Taiwanese insurgent force, the United States could increase the risk of eventual PLA failure, even if it were successful in its amphibious landing. Furthermore, by initiating support to a Uighur insurgency, while simultaneously executing a blockade of the Malacca Strait, the United States could exert considerable domestic and economic pressure on the CCP.

However, no attempt at deterrence is immune from failure. Should the CCP decide to continue its preparations for assault on Taiwan, the United States would be forced to increase its commitment and adopt a strategy of conventional compellence. The limits of US military capacity may require that, as a result of this strategic shift, blockade operations in the Malacca Strait be terminated. However, US support to both Taiwanese and Uighur insurgencies could continue in order to augment the message of compellence and exert maximum pressure on the CCP.

Quick Victory Invasion

The QVI is, without doubt, the most dangerous PRC COA. In this scenario, the rapidity of PLA operations could prevent the United States from executing many of its strategic options in time to influence the political outcome of the war. Even successful operations designed to limit the flow of oil to China, such as a Malacca blockade or Uighur insurgency, might not produce effects until after the conflict. Furthermore, a successful invasion of the Spratly Islands may come only after PLA success on Taiwan, and as such may not be of sufficient political value to dissuade the CCP from its reunification agenda. It is against this scenario that the United States must commit wholly, or not at all. Should the United States decide to confront a QVI, conventional compellence using immediate and perhaps preemptive strike against the OTH-B, combined with any semblance of a Taiwanese insurgency that can be mustered, is the only viable option.

Conclusion

Chinese advances in military capability have fundamentally shifted the delicate balance among the United States, Taiwan, and the PRC. The anti-access military strategy of the PRC has invalidated the methods that have come to characterize America at war in the modern era. But the Iron Dragon is far from invulnerable. The PRC draws strength not only from its emerging capabilities, but also from the apparent strategic stagnation of its potential adversaries, most notably the United States. A doctrine of overwhelming force and the assumption of freedom of action are no substitute for sound strategy. Strategy is about options – not just the freedom to execute options but the intellectual capacity to determine weaknesses in a strong enemy and the creativity to generate options that exploit those weaknesses. The disparity between the CCP's narrow goal of Taiwanese reunification and its grand strategic agenda of regional hegemony and economic expansion leaves the PRC particularly vulnerable to coercion by asymmetric means that threaten its domestic stability and economic vitality. Furthermore, specific actions can be taken against the PLA that invalidate its expectation of air superiority and expose its relatively small invasion force to attack. Both approaches confer on the United States a range of military options to confront Chinese aggression. More importantly, these options allow the United States to avoid the narrow mentality that has dominated contemporary strategic discourse. It is this mentality that has repeatedly generated single-option strategies, which are often mismatched to the nature of the conflict and leave US forces mired in asymmetric wars when the strategy's enabling assumptions collapse on the battlefield. It is the author's hope that this work, by presenting a range of strategic options based on US capability and the weaknesses of a strong enemy, will enable US strategists to keep the Iron Dragon at bay, defend US allies, and preserve the status quo of a relatively peaceful Taiwan Strait.

Appendix: List of Acronyms

AIMT	Air Interdiction of Maritime Targets
AIS	Automatic Identification System
ASAT	Anti-Satellite
ASBM	Anti-Ship Ballistic Missile
ASCM	Anti-Ship Cruise Missile
BAMS	Broad Area Maritime Surveillance
BMD	Ballistic Missile Defense
C2	Command and Control
CCP	Chinese Communist Party
COA	Course of Action
CSG	Carrier Strike Group
CSS	Chinese Surface to Surface (Missile)
DF-21	Dong Feng 21 (ASBM)
DOD	Department of Defense
EEZ	Exclusive Economic Zone
ESG	Expeditionary Strike Group
ETIM	East Turkistan Islamic Movement
FID	Foreign Internal Defense
GDP	Gross Domestic Product
GPS	Global Positioning System
HHQ	Hai Hong Qi (Chinese air defense missile system)
IADS	Integrated Air Defense System
ICBM	Intercontinental Ballistic Missile
ID	Identification
ISR	Intelligence, Surveillance, and Reconnaissance
LEO	Low Earth Orbit
MAD	Mutually Assured Destruction
MITL	Man In The Loop
MRBM	Medium-Range Ballistic Missile
NEO	Non-Combatant Evacuation Operation
NM	Nautical Mile(s)
NPT	Non-Proliferation Treaty
OAPEC	Organization of Arab Petroleum Exporting Countries
OPEC	Organization of Petroleum Exporting Countries
OTH-B	Over-the-Horizon Backscatter Radar
PLA	People's Liberation Army – the Chinese Military (all branches)
PLA(N)	People's Liberation Army (Navy) – The Chinese Navy
PLA(N)AF	People's Liberation Army (Navy) Air Force – Chinese Naval Aviation
PLAAF	People's Liberation Army Air Force – The Chinese Air Force
PRC	People's Republic of China
QVI	Quick Victory Invasion
ROC	Republic of China
ROCAF	Republic of China Air Force – Taiwan's Air Force

SAG	Surface Action Group
SAM	Surface-to-Air Missile
SA-N	Surface-to-Air Naval – a naval SAM system
SCO	Shanghai Cooperation Organization
SLBM	Submarine-Launched Ballistic Missile
SLOC	Sea Lines of Communication
SOF	Special Operations Forces
SRBM	Short-Range Ballistic Missile
SSGN	Sub-Surface, Guided, Nuclear – the US Navy’s designation for a guided missile nuclear submarine
SSN	Sub-Surface, Nuclear – the US Navy’s designation for a nuclear attack submarine
SS-N	Surface to Surface, Naval – a naval surface to surface weapons system
TIP	Turkistan Islamic Party
ULCC	Ultra Large Crude Carrier
UNCLOS	United Nations Conventional Law of the Sea
UNSCR	United Nations Security Council Resolution
VLCC	Very Large Crude Carrier
Z	Zulu. The military designation for Greenwich Mean Time.

Bibliography

- Aldrich, Richard J. *The Hidden Hand: Britain, America and Cold War Secret Intelligence*. New York, NY: The Overlook Press, 2001.
- Asia / China-Vietnam, Mui da Nang to Shenquan Gang. Map, 93036. Bethesda: National Geospatial Intelligence Agency, 2008.
- Asia / South China Sea Mui da Nang to Mui Bai Bung. Map, no. 93030. Defense Mapping Agency, 1996. National Geospatial Intelligence Agency.
- Baker, Rodger. "China and the Enduring Uighurs." *Stratfor: Global Intelligence*, 6 August 2008.
http://www.stratfor.com/weekly/china_and_enduring_uighurs?ip_auth_redirect=1
- Bamberger, Robert. *The Strategic Petroleum Reserve: History, Perspectives, and Issues*. Washington, DC: Congressional Research Service, 2008.
- Betts, Richard K. *Nuclear Blackmail and Nuclear Balance*. Washington, DC: The Brookings Institution, 1987.
- "Blockade and Kill Taiwan Independence's 'Aegis'." *Xiandai Bingqi*, 2 January 2003, 41-44. In Foreign Broadcast Information Service as "PRC: Joint Tactics for Destroying 'Aegis,' 'Arleigh Burke' Described." 9 April 2003.
- Boyd-Carpenter, Thomas. *Conventional Deterrence Into the 1990s*. New York, NY: St Martin's Press, 1989.
- Brookes, Peter. "Why China Worries the Pentagon." *The Early Bird*. 16 October 2009.
<http://ebird.osd.mil/ebfiles/e20091006708016.html>.
- Brown, Peter J. "China All At Sea Over Japan Island Row." *Asia Times Online*, 4 March 2010. <http://atimes.com/atimes/China/LC04Ad04.html>.
- Chase, Michael S. "Taiwan's Arms Procurement Debate and the Demise of the Special Budget Proposal: Domestic Politics in Command." *Asian Survey*, July/August 2008: 703-705.
- Cheng, Dean B. "The Long March Upward: A Review of China's Space Program." In *Harnessing the Heavens: National Defense Through Space*, eds. Paul G. Gillespie and Grant T. Weller, 151-163. Chicago, IL: Imprint Publications, 2008.
- Cliff, Roger, Mark Burles, Michael S. Chase, Derek Eaton, and Kevin L. Pollpeter. *Entering the Dragon's Lair: Chinese Antiaccess Strategies and Their Implications for the United States*. Santa Monica, CA: RAND Corporation, 2007.

- Crisp, Michael. "The Great Chinese Sea Power Debate: a review essay." *Journal of Contemporary China* 19, no. 63 (27 January 2010): 201-212. <http://dx.doi.org/10.1080/10670560903335918>.
- Denmark, Abraham M., and Dr. James Mulvenon, eds. *Contested Commons: The Future of American Power in a Multipolar World*. Report from the Center for a New American Security. Washington, DC: Center for a New American Security, January 2010.
- Department of Defense. *Annual Report to Congress: Military Power of the People's Republic of China 2009*. Washington, DC: Government Printing Office, 2009.
- . *Nuclear Posture Review Report*. Washington, DC: Government Printing Office, 2010.
- Department of State website. "Foreign Terrorist Organizations – 19 January, 2010." <http://www.state.gov/s/ct/rls/other/des/123085.htm>.
- Erickson, Andrew S., and Gabriel B. Collins. "China's Oil Security Pipe Dream: The Reality, and Strategic Consequences, of Seaborne Imports." *Naval War College Review* 62, no. 2 (Spring 2010).
- Federation of American Scientists. "AN/TPS-71 ROTH (Re-locatable Over-the-Horizon Radar)." <http://www.fas.org/nuke/guide/usa/airdef/an-tps-71.htm>.
- . "F-18 Hornet." <http://www.fas.org/programs/ssp/man/uswpns/air/fighter/f18.html#performance>.
- . "Over-the-Horizon Backscatter Radar [OTH-B]." <http://www.fas.org/nuke/guide/china/facility/oth-b.htm>.
- Gertler, Jeremiah. *Air Force KC-X Tanker Aircraft Program: Background and Issues for Congress*. Washington, DC: Congressional Research Service, 2009.
- Global Navigation and Planning Chart, GNC 13, Edition 12*. Map. St. Louis: Defense Mapping Agency, 1987.
- Harvey, John. *Conventional Deterrence and National Security*. Fairbairn, ACT: Air Power Studies Centre, 1997.
- Herman, Arthur. "America's Looming China Challenge." *New York Post*, 26 January 2010. <http://ebird.osd.mil/ebfiles/e20100126730252.html>.
- Holmes, James R. and Toshi Yoshihara. "Mahan's Lingerin Ghost." *Proceedings Magazine* 135, no. 12 (December 2009). http://www.usni.org/magazines/proceedings/story.asp?STORY_ID=2123.

- *Chinese Naval Strategy in the 21st Century*. In Michael Crisp, “The Great Chinese Sea Power Debate: a review essay.” *Journal of Contemporary China* 19, no. 63 (27 January 2010): 201-212.

- Jane's Information Group. *Jane's Sentinel Country Reports*. “China.” http://sentinel.janes.com/docs/sentinel/CNAS_country.jsp?Prod_Name=CNAS&Sent_Country=China&.

- *Jane's Sentinel Country Reports*. “China: Non-State Armed Groups.” http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNAS&K2DocKey=/content1/janesdata/sent/cnasu/cnaa007.htm@current.

- *Jane's Sentinel Country Reports*. “Chinese Naval Deployments.” http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNAS&K2DocKey=/content1/janesdata/sent/cnasu/chins130.htm@current#toclink-j1131124871980297.

- *Jane's Sentinel Country Reports*. “Chinese Naval Doctrine.” http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNAS&K2DocKey=/content1/janesdata/sent/cnasu/chins130.htm@current#toclink-j1131124872728930.

- *Jane's Sentinel Country Reports*. “Chinese Navy Organization and Command and Control.” http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=China&Prod_Name=CNAS&K2DocKey=/content1/janesdata/sent/cnasu/chins130.htm@current#toclink-j0010004460.

- *Jane's Sentinel Country Reports*. “East Pacific Region, Economic Statistics.” http://sentinel.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?&K2DocKey=/content1/janesdata/sent/cnasu/cnaa014.htm@current&Prod_Name=CNAS&Prod_Name=CNAS&QueryText=REGIONAL+STATIST.

- *Jane's Sentinel Country Reports*. “Regional Statistics, China and Northeast Asia, Country Stability Ratings.” http://sentinel.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?&K2DocKey=/content1/janesdata/sent/cnasu/cnaa014.htm@current&Prod_Name=CNAS&Prod_Name=CNAS&QueryText=REGIONAL+STATISTICS#toclink-j1931227101621703.

- *Jane's Sentinel Country Reports*. “Taiwanese Economic Factors.” http://www4.janes.com/subscribe/sentinel/CNAS_doc_view.jsp?Sent_Country=Taiwan&Prod_Name=CNAS&K2DocKey=/content1/janesdata/sent/cnasu/taiws060.htm@current#toclink-j0010019937.

- Jiang Lei. *Xiandai Yi Lei Sheng You Zhanlue [Modern Strategy for Using the Inferior to Defeat the Superior]*, 113-114. In Roger Cliff et al., *Entering the Dragon's Lair: Chinese Anti-access Strategies and Their Implications for the United States*. Arlington, VA: RAND Corporation, 2007.
- Joint Publication (JP) 3-05.1. *Joint Special Operations Task Force Operations*, 26 April 2007.
- Joint Publications (JP) 3-05. *Doctrine for Joint Special Operations*, 17 December 2003.
- Klein, John J. *Space Warfare: Strategy, Principles and Policy*. London, UK: Routledge, 2006.
- Mearsheimer, John J. *Conventional Deterrence*. Ithaca: Cornell University Press, 1983.
- Moltz, James Clay. *The Politics of Space Security: Strategic Restraint and the Pursuit of National Interests*. Stanford, CA: Stanford University Press, 2008.
- Murray, William, "China-Taiwan Case Study". Lecture. United States Naval War College, Newport, RI, 6 April 2009.
- Office of the Chairman, Joint Chiefs of Staff. *Joint Vision 2020 America's Military: Preparing for Tomorrow*. Washington, DC: Government Printing Office, 2000.
- O'Rourke, Ronald. *China Naval Modernization: Implications for U.S. Navy Capabilities - Background and Issues for Congress*. Washington, DC: Congressional Research Service, 2008.
- . *China Naval Modernization: Implications for U.S. Navy Capabilities - Background and Issues For Congress*. Washington, DC: Congressional Research Service, 2009.
- Pape, Robert A. *Bombing to Win: Air Power and Coercion in War*. Ithaca, NY: Cornell University Press, 1996.
- Schelling, Thomas C. *Arms and Influence*. New Haven, CT: Yale University Press, 1966.
- Sheehan, Neil. *A Fiery Peace in a Cold War: Bernard Schriever and the Ultimate Weapon*. New York, NY: Random House, 2009.
- Sheridan, Mary Beth. "New Nuclear Arms Policy Shows Limits U.S. Faces." *The Washington Post*, 7 April 2010.
<http://www.washingtonpost.com/wpdyn/content/article/2010/04/06/AR2010040601369.html>.

- Shlapak, David A., David T. Orletsky, Toy I. Reid, Murray Scot Tanner, and Barry Wilson. *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute*. Santa Monica, CA: RAND Corporation, 2009.
- Singer, P.W. *Wired for War: The Robotics Revolution and Conflict in the 21st Century*. New York, NY: The Penguin Press, 2009.
- South China Sea*. Map, reference no. 737328 (R01788). December, 1995.
- Taleb, Nassim Nicholas. *The Black Swan: The Impact of the Highly Improbable*. New York, NY: Random House, 2007.
- United States Coast Guard website. <http://www.navcen.uscg.gov/enav/ais/default.htm>, and http://www.navcen.uscg.gov/enav/ais/AIS_carriage_reqmts.htm.
- United States Energy Information Administration. "World Oil Transit Chokepoints." http://www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/Malacca.html.
- United States Naval Institute. "Chinese Develop Special 'Kill Weapon' to Destroy U.S. Aircraft Carriers." *U.S. Naval Institute*. 31 March 2009.
- Xin-qi Li, Guo-hua Niu, Ming-hai Wang, and Ming-jun Luo. "Pixel-simulation Study on Damage Efficiency of Carrier Plane Groups under Attacking of Submunition." *Journal of System Simulation* 20, no. 11 (June 2008): 3062.
- Ye Zicheng, Beijing University Professor. In James R. Holmes and Toshi Yoshihara *Chinese Naval Strategy in the 21st Century*, and reviewed by Michael Crisp, "The Great Chinese Sea Power Debate: a review essay." *Journal of Contemporary China* 19, no. 63 (27 January 2010): 201-212.
- Zhang Wenmu, Ocean University of China Professor. In James R. Holmes and Toshi Yoshihara *Chinese Naval Strategy in the 21st Century*, and reviewed by Michael Crisp, "The Great Chinese Sea Power Debate: a review essay." *Journal of Contemporary China* 19, no. 63 (27 January 2010): 201-212.